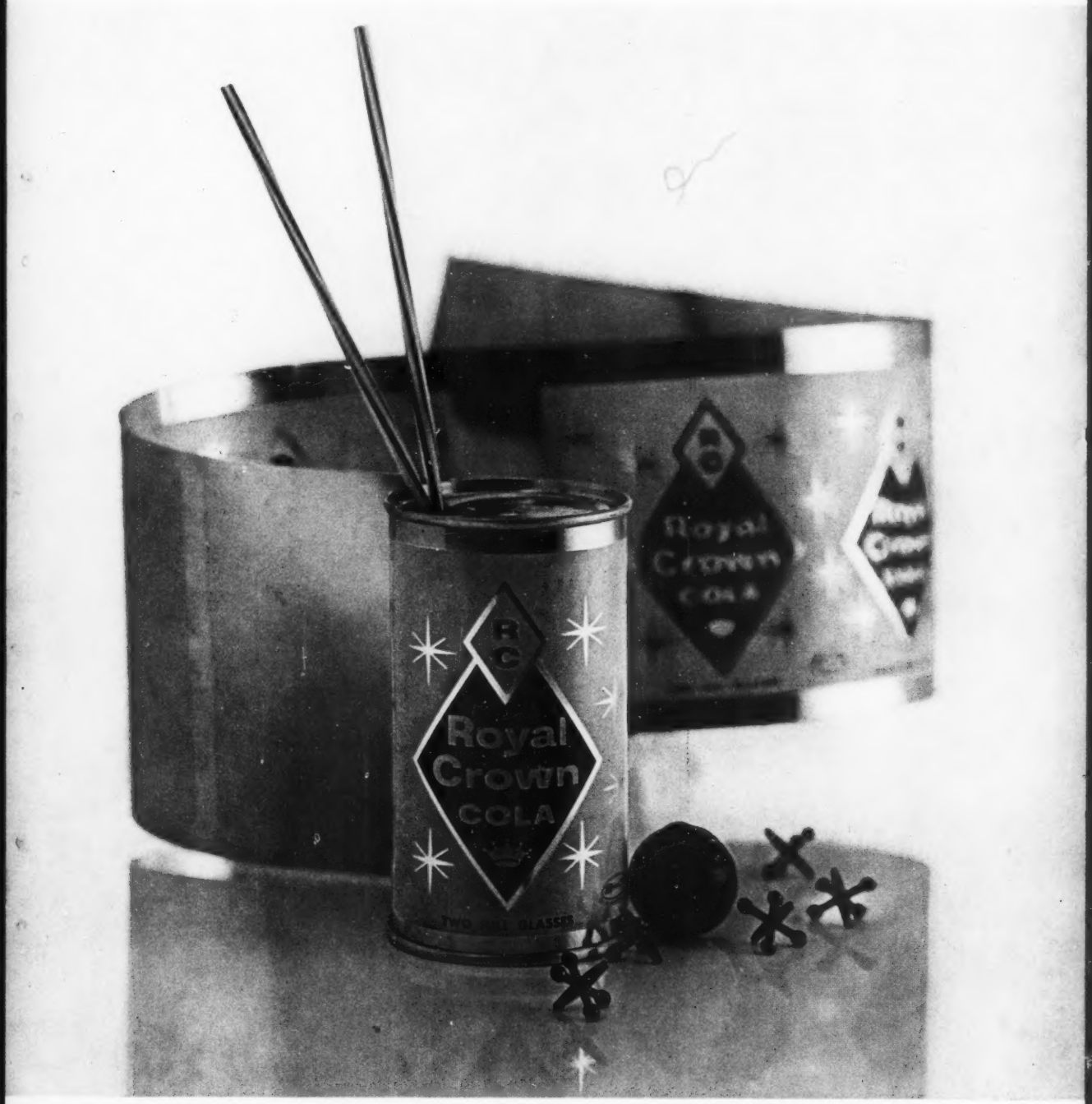
MODERN PACKAGING



DESIGNED AND PHOTOGRAPHED FOR MODERN PACKAGING BY HAL REIDT

SUCCESS STORY: *Royal Crown canned soft drinks, p. 112*

Background, p. 41 / *World Report, p. 75* / *Ideas in Action, p. 110*

JUNE 1961

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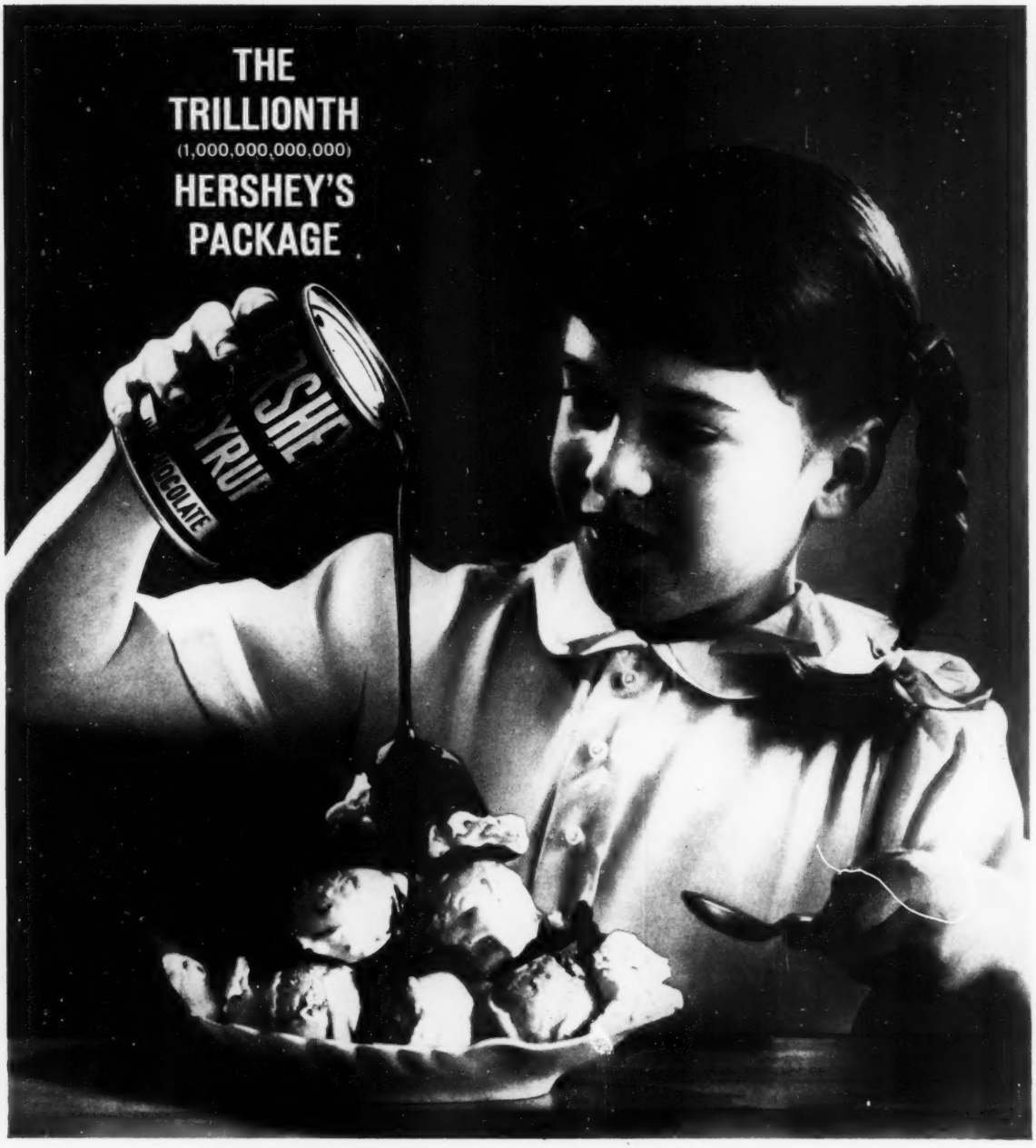

will use National Specialty Adhesives

In labeling, carton forming, and case sealing, National specialty adhesives . . . used for the past half-century . . . have contributed greatly to the packaging leadership that has helped make Hershey's products their own best salesmen.

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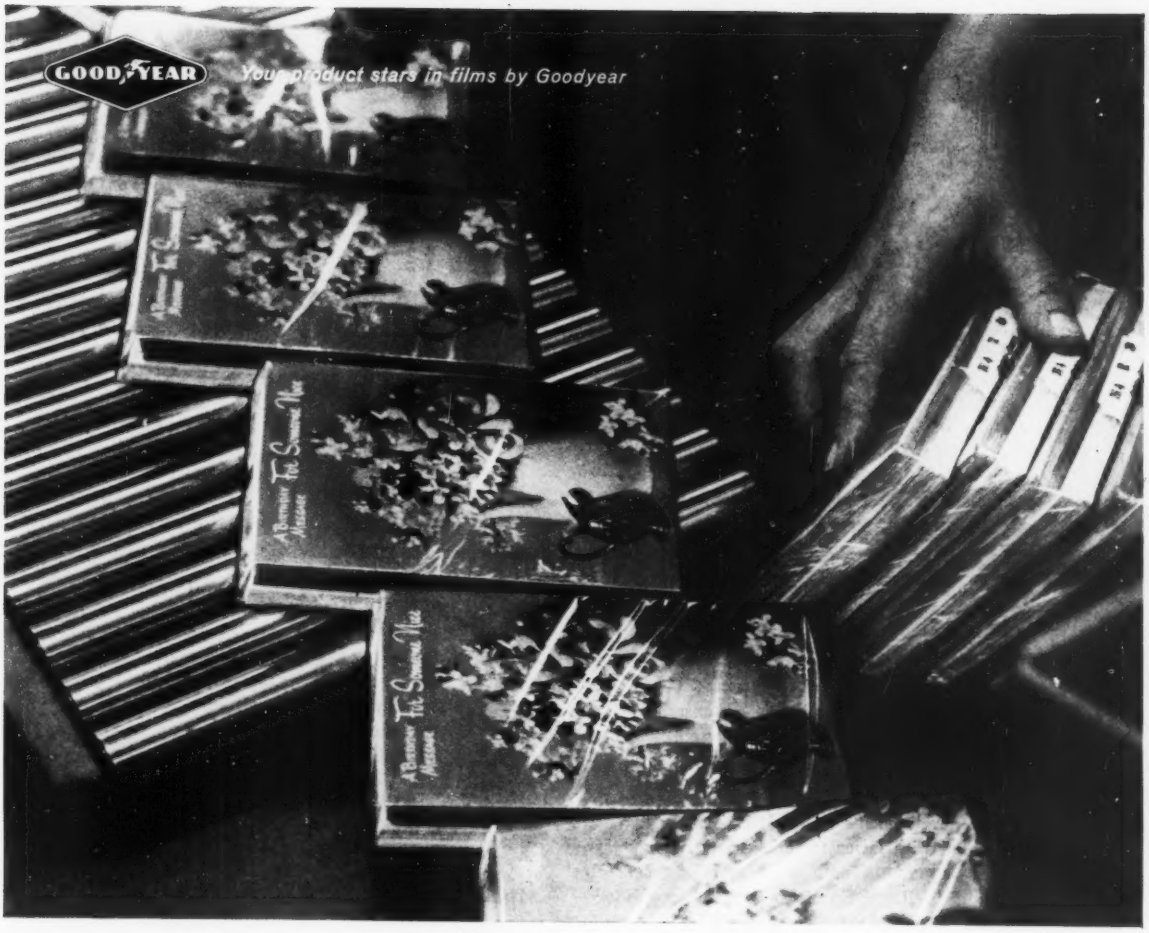

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Problem

Breakage and rewraps were an expensive problem to a large card manufacturer. The film that was supposed to protect the package didn't.

Solution

The Goodyear Packaging Engineer recommended a switch to VITAFILM, Goodyear's tough transparent film that's especially suited for paper products. He worked with the card maker ... converted his existing equipment ... turned out better-looking, stronger, longer-lasting packages. Goodyear technical service people will be glad to help solve your packaging problems. In most cases they can convert your equipment at no ultimate cost to you. For the dollars-and-cents story on VITAFILM, write: Goodyear, Packaging Films Dept. F-6418 Akron 16, Ohio.

GOODYEAR

Vitafilm, a Polyvinyl chloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

IN THIS ISSUE OF MODERN

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95 **Plastics today and tomorrow**
Alone and in combination with other materials, plastics are achieving ascendant importance in the $20-billion packaging market. Here, on the eve of the biennial Plastics Exposition, is a study in depth of a 20th-century phenomenon that has changed the face of packaging as nothing before it—and whose greatest advances, by all indications, are still to come.
General interest.

102 **Industrial shelf appeal**
Taking a "consumer approach" to industrial packaging, Fafnir Bearing Co. has achieved a memorable family look on cartons and shippers for some 10,000 different products. As part of its packaging overhaul, the company has adopted sturdy new locking tuck-flap cartons that eliminate tape seals and cut rejects by 50%.
Special interest: industrial products, designers.

105 **Blister-carded greetings**
New developments in in-plant forming machinery, coupled with lower material costs, are opening up new markets for blister packaging. Example: American Paper Specialty is running web-fed oriented polystyrene on its own vacuum-pressure blister former for greeting cards costing less than 2 cents each. The company reports a tenfold sales increase in just one year.
Special interest: paper goods, low-cost notions.

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"It's a fast-moving world."

108 **Foam-in-place for typewriters**
As the latest step in a continuing repackaging project, Royal McBee replaces an all-plastic

foam "cocoon" for typewriters with an expanded-polyurethane-and-corrugated carton costing half as much. The lightweight shipper virtually eliminates in-transit product damage.
Special interest: watches, clocks, instruments.

112 **Royal Crown canned soft drinks**
A Success Story (see cover). Canned soft drinks this year will pass the billion mark in unit sales. Almost half that volume will be enjoyed by Royal Crown, pioneer user among the big-name brands. This company finds that the throw-away container creates extra sales to improve the over-all market position won by glass bottles.
General interest.

114 **Automation justifies a package**
When Benton-Kirby switched from a folding carton to a sift-resistant foil container as a grow-in planter for seeds, sales rose 200%—but packaging costs went up appreciably. Now a new automatic filler-lidder that speeds production from 35 to 50 containers per minute has cut labor costs 57%.
A production-methods article.

117 **Pouching 46,000 Buick parts**
Package-size flexibility, low unit cost and adequate speed—machine requirements of every industrial packager producing a wide range of product shapes and sizes—are met in a new semi-automatic poucher installed at GM's Buick Div. parts warehouse. The unit heat seals single or multiple components in polyethylene-coated cellophane at a speed of 42 pouches per minute.
A production-methods article.

122 **Ram loading of divider cartons**
A standard cartoner, modified to mechanize the counting and loading of bottles, saves Burroughs Wellcome 43% in labor over a previous hand-loading job. New mechanical components are a

New address

MODERN PACKAGING, Executive and Editorial Offices, 770 Lexington Ave., New York 21, N.Y. Phone PLaza 9-2710

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collator that re-arranges a single line of oval bottles into four lines and a carton loader that groups divider-separated bottles by the dozen.

A production-methods article.

126 **Year's best in set-up boxes**
National Paper Box Mfrs. Assn.'s 11th annual competition draws a record number of entries. Prize-winners dramatize a trend toward higher modern standards in graphics and construction.

General interest.

129 **Redesign payoff: 500%**
In a bid to take a confectionery item out of direct competition with strongly established products, King Kup abandons a square package in favor of a rectangular, cellophane-overwrapped paperboard boat. The move, which also provides the bite-size appeal of three pieces of candy instead of one, has led to big sales gains.

Special interest: foods, advertising, design.

130 **Plastic netting for produce**

A potentially big-volume market for strong and colorful polyethylene-net bags is opened up by two East Coast packers. Using the open-mesh bags for fresh sweet potatoes and onions, the packers report exceptional improvement in shelf life as well as enhanced merchandising appeal.

Special interest: fresh fruits and vegetables.

132 **Convenience for dealers, too**
Packagers seeking to ease the work load for wholesalers and retailers (and build up brand loyalty among these primary customers) might take note of recent developments by Kraft Foods. Newly redesigned inner cartons in cheese-product shippers facilitate filling less-than-case orders.

General interest.

136 **Mechanizing a liquid-fill carton**
Significant to many liquid packagers is a straight-line filling, sealing and carton-closing set-up devised by Process Solvent Co. to handle a polyethylene-liner-in-carton acid container. It cuts labor 60% and raises output 120% compared with a former manual packaging operation.

A production-methods article.

TECHNICAL & ENGINEERING

143 **Adhesion promoters for PE**
Du Pont research on the technology of polyethylene extrusion coating of various flexible materials reveals that a stronger bond of the coating to the smooth substrate is achieved via organic titanate adhesion promoters. *By C. L. Gray, Jr., W. L. MacCarthy and T. F. McLaughlin, Jr.*

148 **Improved egg-cell carton**
A "suspension platform" egg carton, formed from a single blank, has been developed by KVP Sutherland. Coupled with a simple high-speed (85 per minute) forming machine, it offers new possibilities for economical packaging, effective display and convenient home use. *By W. E. Wilson.*

154 **Evaluation of plastic jars**
At Picatinny Arsenal, rough-handling tests measure the performance of four types of plastic containers (low-density polyethylene, cellulose acetate, polystyrene, high-density polyethylene) for small Ordance parts. The results, in terms of leakage, breakage and WVTR, indicate that further work is needed. *By Richard H. DeVore,*

158 **Questions & Answers**
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The why and how of outstanding packages.

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MP

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ABC ABP

Efficient and compact, the Automax Cartoner requires only 30" x 70" floor space. Connects directly to 220-volt electric line.

NOW! A fully automatic Redington Cartoner for $7,500.00

New Automax with pocket intake handles wide range of sizes without change parts

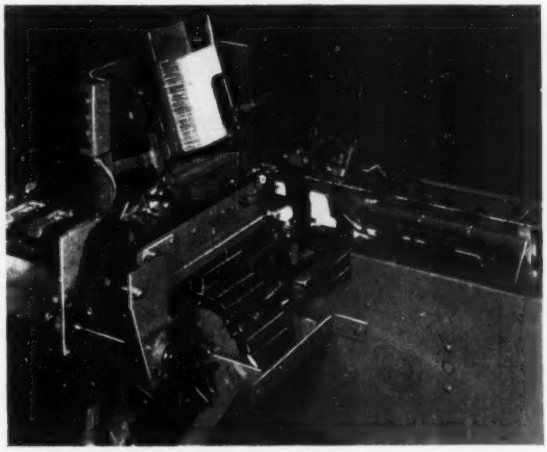
Now the Redington Automax Cartoner is fully automatic! A new pocket intake provides completely automatic feeding of bottles, tubes, jars, tins, auto parts, electrical components and many other types of products into cartons. Its operating speed of 72 per minute is timed to that of labelers, bottle and tube fillers and other complementary equipment.

This new Automax fills an important need in the intermediate volume market for a low cost machine that can quickly and easily be changed over from one size to another to allow for shorter runs of a variety of products. Size range of cartons is:

	Length	Width	Thickness
Minimum	2"	1"	3/4"
Maximum	7"	4"	2½"

The Automax is available in a Standard (semi-automatic) model and in a fully automatic model with belt intake for special applications. Optional equipment also available for end panel printing and coding, and automatic safety detectors.

If your cartoning requirements fall within the range of this machine, you can't afford to do without its many cost-saving advantages. For further information, write, wire or call Redington Division, Crompton & Knowles Packaging Corporation, 3000 St. Charles Road, Bellwood, Illinois, or our nearest sales office.



Fully automatic, continuous operating equipment forms carton, inserts package or product and closes both ends automatically.

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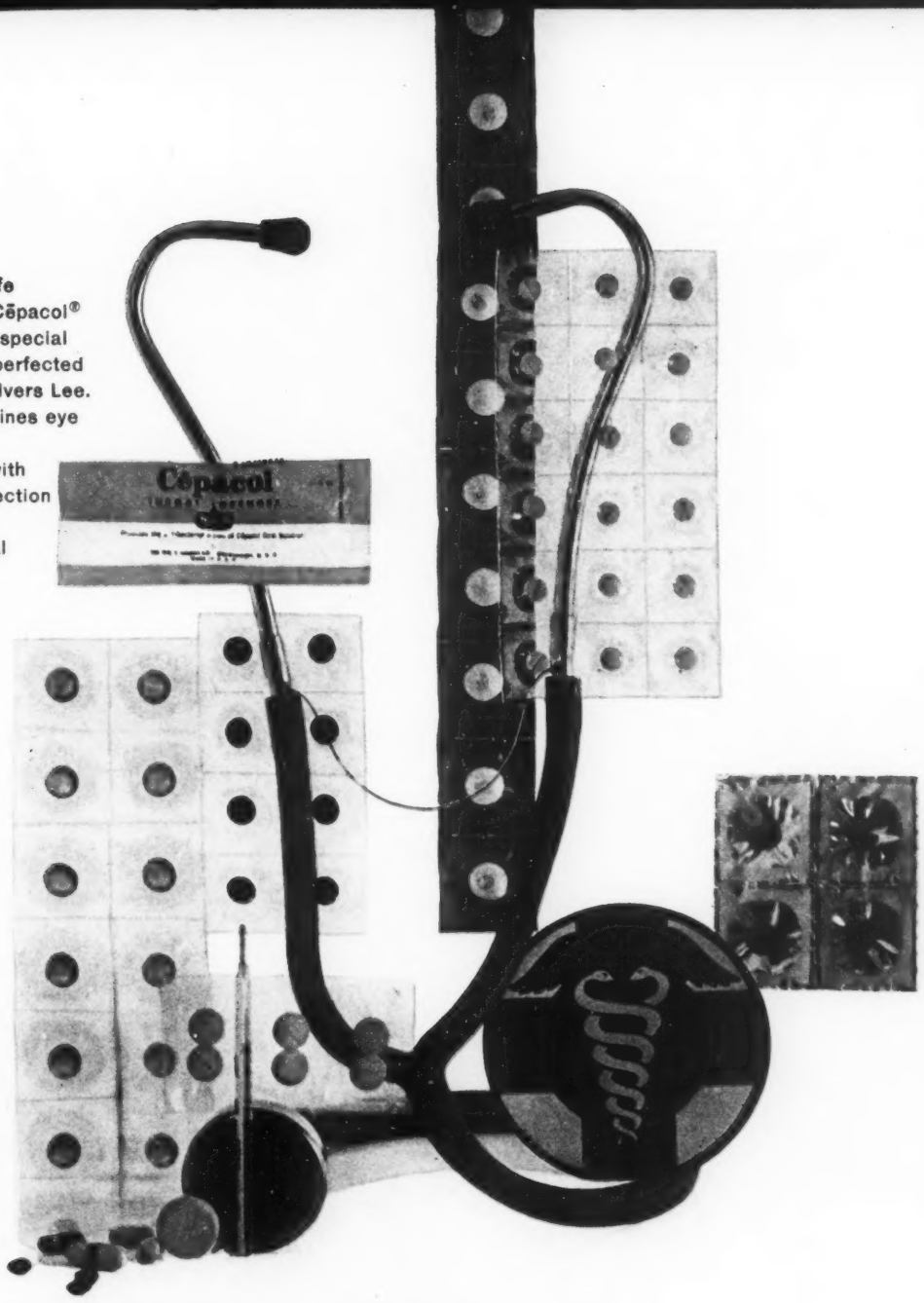

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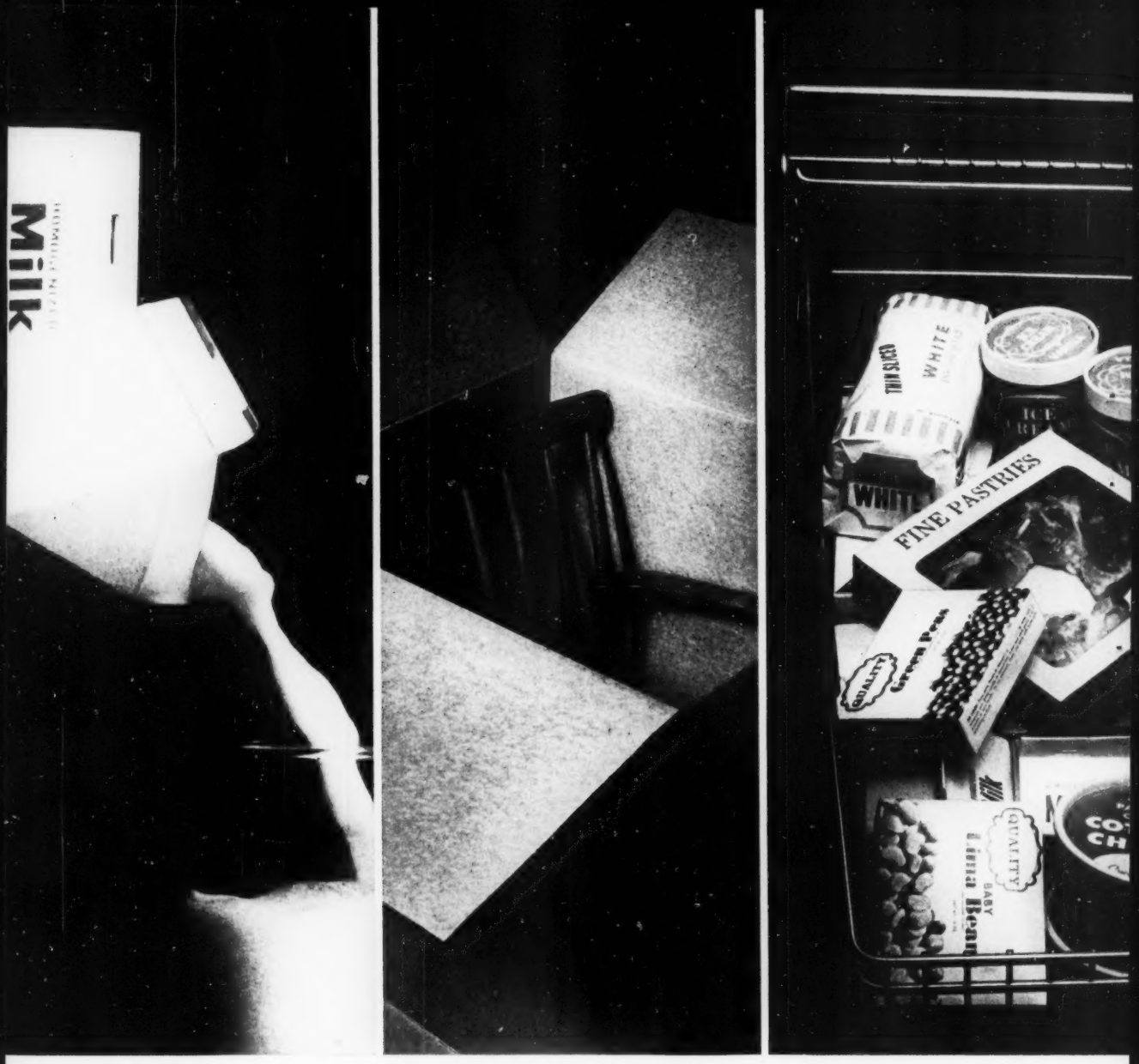

If they're made with A-C Polyethylene, they have more gloss, strength, and resistance to scuff and water

Sturdier dairy cartons. Cartons coated with A-C® Polyethylene-paraffin blends can withstand rough handling. Leaking, flaking and bulging are virtually eliminated. Smooth plastic-like feel, pleasant to the touch.

No more "fiber scratch." Wax coatings for appliance and fine furniture cartons, made with A-C Polyethylene, avoid "fiber scratch"—and the need for costly liners.

Super-high gloss for food wraps. A-C Polyethylene imparts *super*-high gloss to waxed paperboard, often makes overwrappings unnecessary. Ideal for frozen food, ice cream, bread wrappers.

To get better packaging, specify A-C Polyethylene. To make better packages, use A-C Polyethylene. For more information, write us today for complete details.

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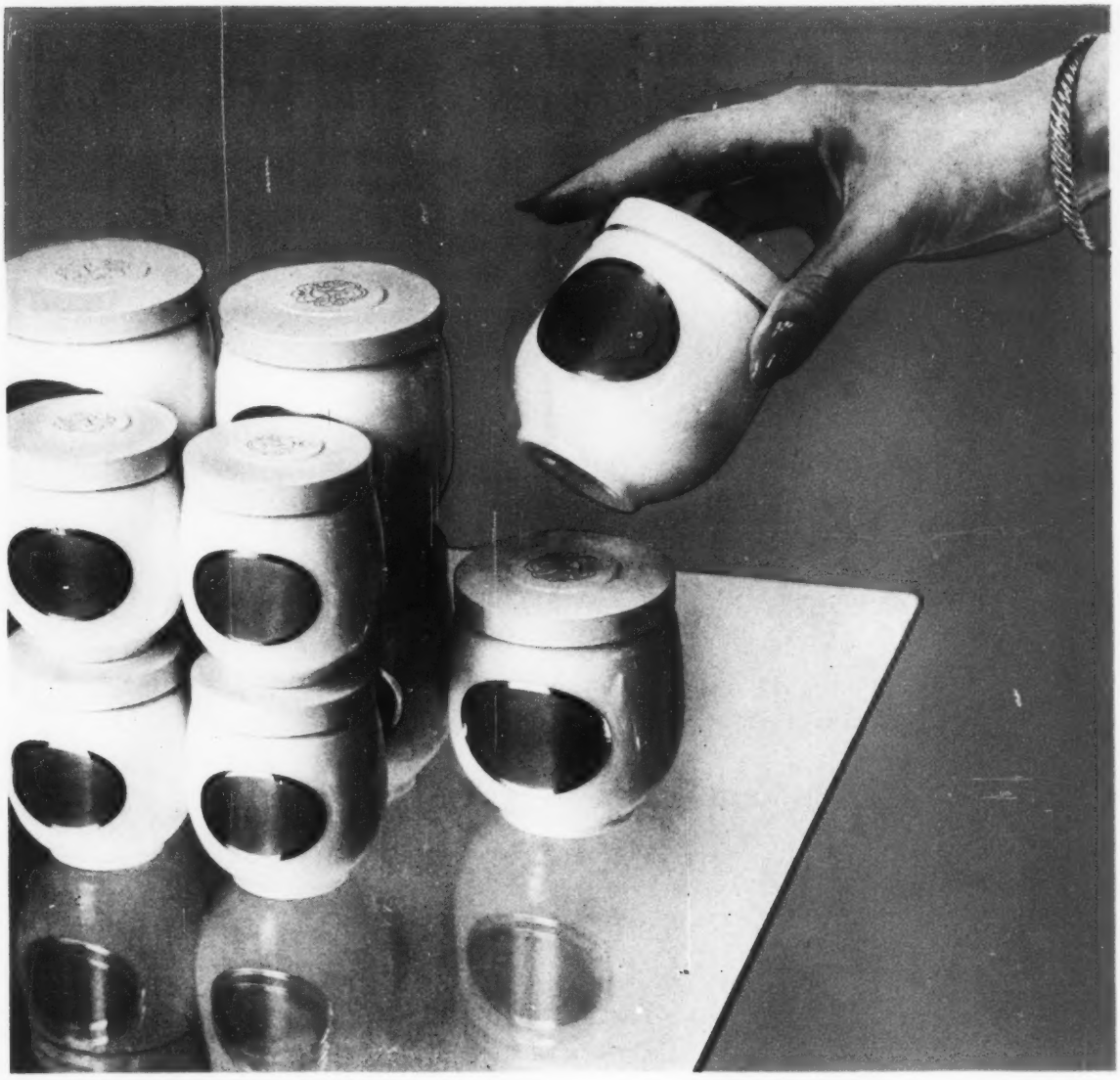

NO ONE CAN RESIST BEAUTY

. . . AND MERITSEAL IS NOW SELF-STACKING TOO !

Crown Meritseal caps are the perfect touch for products that must say quality and beauty all the way. Their flawless lithography, their ease of removal and sealing efficiency, all add to your product's sales-appeal. And now, they have a new self-stacking design which allows your dealer to prepare mass displays for more unit sales.

Crown Meritseal caps spin on smoothly and swiftly on your production line. They are available in a variety of sizes, with liners to suit your needs.

YOUR PACKAGING DESERVES CROWN QUALITY

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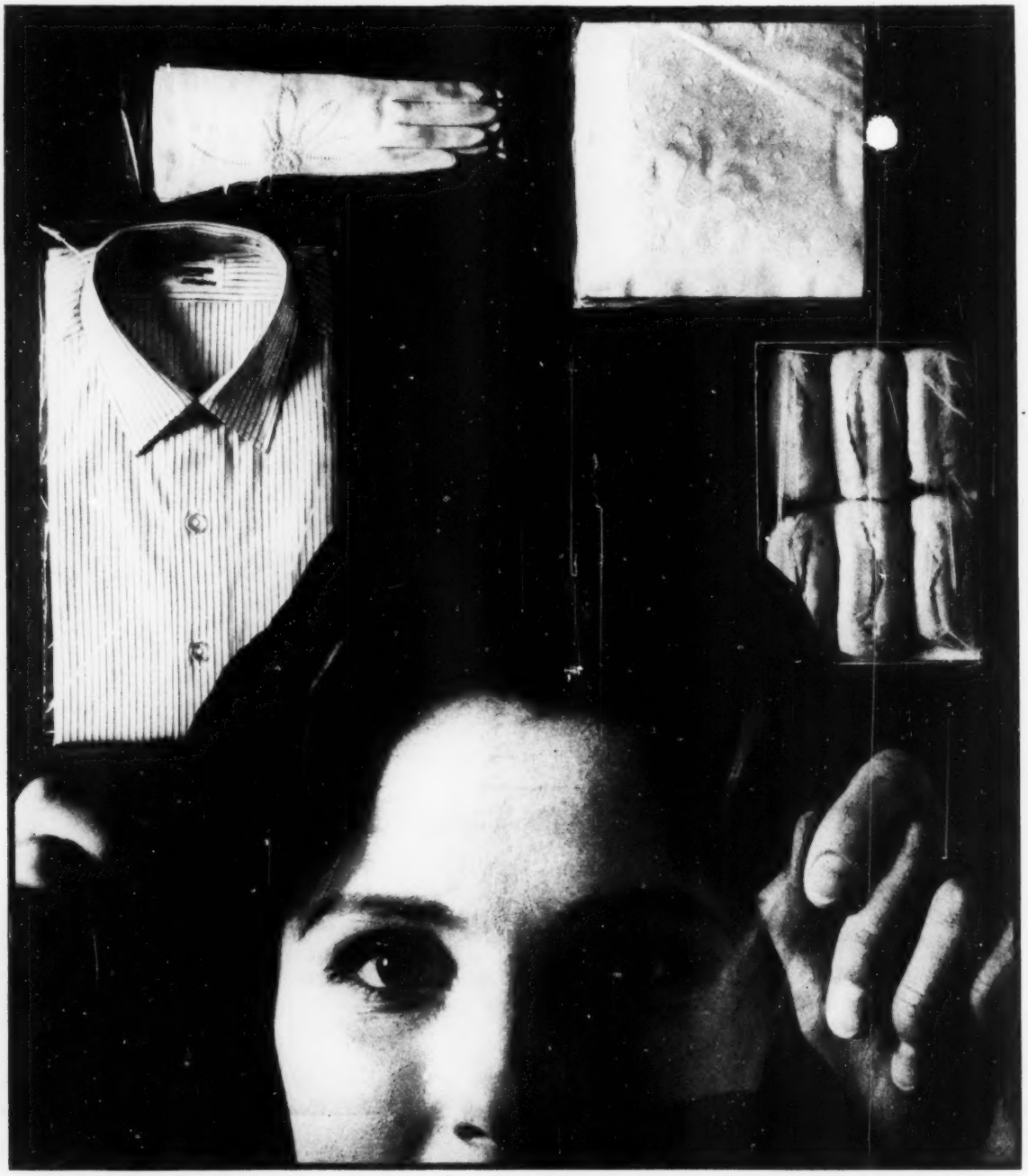
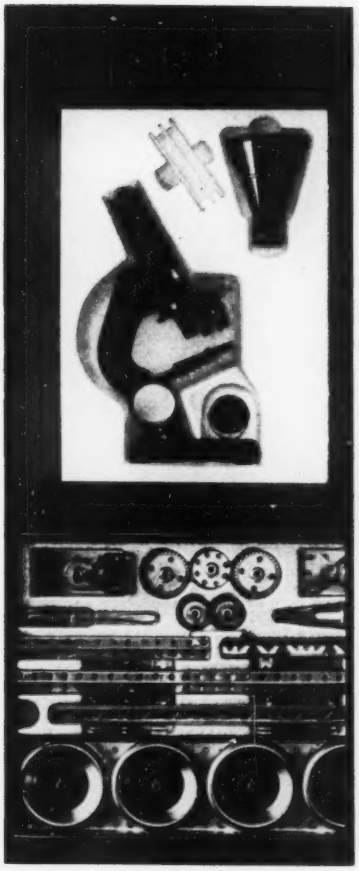
KOPPERS PLASTIC PACKAGING IDEAS THAT MAY GIVE YOU AN IDEA

New polyethylene film has all the clarity you want

You no longer have to stock several types of polyethylene film because new DYLAN® polyethylene 2037 gives you the best combination of properties available in *any* low-density packaging film. In *one* versatile material, you get excellent transparency, unusual high gloss, and good strength. New DYLAN film has excellent draw-down so it's easy to extrude. It heat seals easily, prints clearly. Look into this newly developed DYLAN polyethylene 2037 film; it protects, shows off, and sells any food, textile, paper, industrial, novelty or toy product.

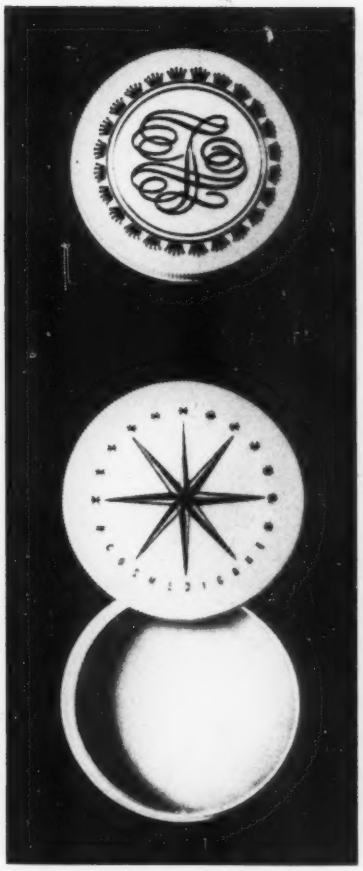




Foam trays simplify toy packaging

A. C. Gilbert Company uses DYLITE® expandable polystyrene trays because they completely eliminate costly interior packing materials. DYLITE trays are strong, good looking, easy to assemble and load—they save on labor costs. They also cut shipping costs because they're extremely lightweight.

DYLITE packages come in any size or shape; they fit firmly around the product and protect it from shipping damage. They make an attractive display because their smooth, colorful surface won't smear, chip or flake. DYLITE parts molded by: Sullifoam Products, Willow Grove, Pennsylvania.



Plastic changes the face of compacts

If you've been to a cosmetic counter recently, you've probably noticed a new look in compacts. Many cosmetic manufacturers have switched to plastic cosmetic cases because they cost less and make a better-looking package.

One plastic that has helped revolutionize the compact field is DYLENE® polystyrene. It's a designer's plastic; you can choose from over 15 formulations with balanced properties. DYLENE molds easily in a wide range of colors in a smooth, glossy finish. It is lightweight and has good heat and shock resistance. These compacts were molded by Augusta Plastics, Bronx, New York.

New cap has a "snip-off" tip

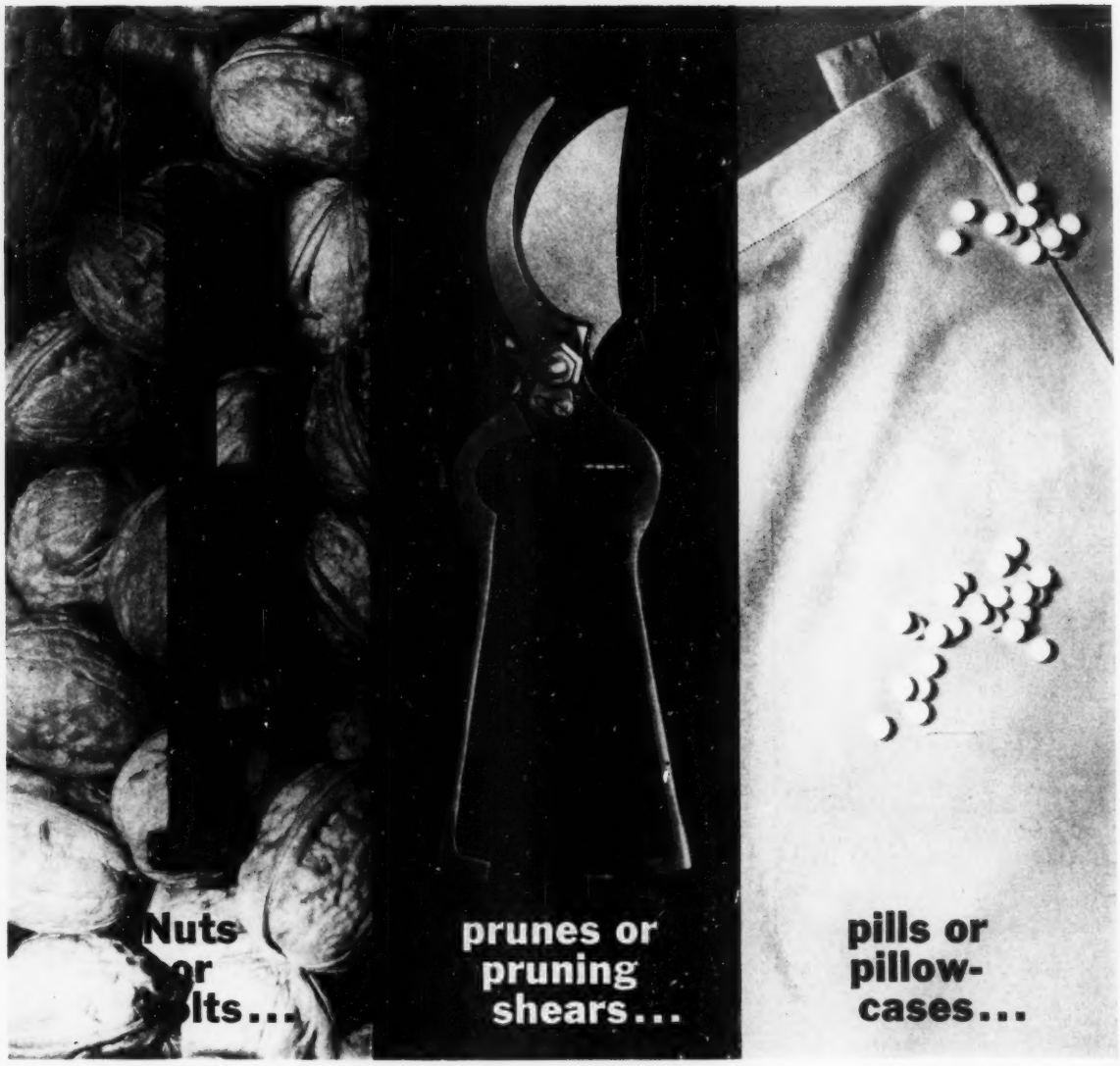
This convenient feature has captured the fancy of time-saving housewives. They just scissor the top of this new DYLAN® polyethylene cap and get a measured flow of Liquid Lux with every squeeze of the bottle. There's no more burdensome measuring by capsful. This new cap tightly grips the neck of the bottle . . . no drips, no leaks.

DYLAN caps have a smooth, glossy finish that won't chip or dent. They're lightweight, rust-proof and they can be molded in any size, shape or color. Molded by: Augusta Plastics, Bronx, N.Y., Formold Plastics, Blue Island, Ill., Gibson Associates, Inc., Cranford, N.J.

KOPPERS PLASTICS

Find out how Koppers family of plastics can better your package at less cost. For complete information, write Koppers Company, Inc., Plastics Division, Dept. 122, Pittsburgh 19, Pa.

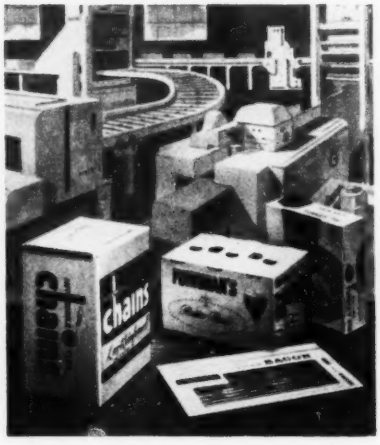
KOPPERS®



High-speed packaging for ALL with low-cost Kliklok

One of the St. Regis ways to Systematic Packaging—Look at all the things that now can be packaged—more profitably—with a compact Kliklok system from St. Regis®. You'll pack faster, more economically with the automatic operation of Kliklok machinery plus glueless, space-saving cartons. Printed box or plain, your package is firmly locked to assure rigid product protection, fewer "cripples."

The Folding Carton Division offers Kliklok machines in various models to suit individual product and production needs. Guaranteed for dependability, a Kliklok system also can be adapted to different sized cartons in as little as five minutes . . . adapted to pace your line at the tempo you want. It's your all-around cost-cutter!



Kliklok is only one of the complete, modern packaging systems from the St. Regis Folding Carton Division. Systems designed to produce better packages at lower cost. Drop a line to the plant below nearest you. Specify what you make, and we'll send details on the best St. Regis way to improve your packaging *systematically*.

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CROWELL CARTON COMPANY, MARSHALL, MICH.
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GULF CARTON COMPANY, PENSACOLA, FLA.
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PACKAGING
SUGAR *and* / *or* SPICE

MARATHON HAS THE ANSWER

Resources that assure smooth flow in package production—from tree to finished product—are part and parcel of packaging from Marathon.

Regardless of how simple or complex your package needs to be, *Marathon has the answer* through integrated resources that include: woodlands, pulp mills, paper mills, printing and converting plants.

Even a simple sugar pouch, for example, makes good use of Marathon resources. This pouch required the development of a special high-brightness, high-opacity, high-strength paper with a polyethylene coating.

Spice cartons pose still other problems and *Marathon has the answer:* Hi-Fi Wonder White paperboard provides stain resistance, die-cuts and scores accurately for operation on high-speed packaging machines, prints beautifully in multi-color for eye and buy appeal. Whatever the production situation, Marathon has the resources . . . and resourcefulness . . . to do the job.

Marathon, A Division of American Can Company, Menasha, Wisconsin. In Canada: Marathon Packages Limited, Toronto 3.

For packaging...and ideas...

you can't beat marathon

An expensive, colorful label
must be precision-applied to
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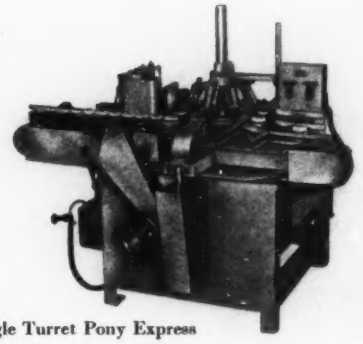
The PONY EXPRESS LABELER

adds maximum display value to your container

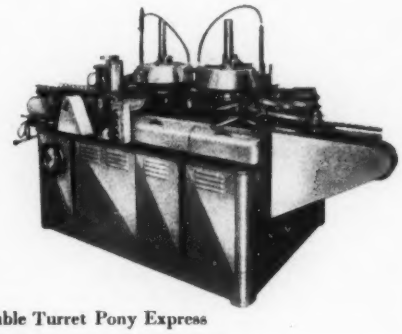
Here's why:

• Exclusive suction label transport system guarantees exact label placement within 1/64" • Controlled bottle handling confines each container in a precisely contoured guide pocket • A combination of full-surface exposure of the label to the glue applicator plus film gluing through micro-adjustment of the adhesive coating produces edge to edge overall adhesion with no "glue ooze" • Center-line label application, and shaped-pressure pad action which assures equal force on each unit of area, delivers perfect register and permanent bond—without air pockets, picker marks, blisters or wrinkles.

• Pony Express is available as a single turret machine for front labeling, or a double turret machine for *both* front and back labeling. A changeover can be made in 25 minutes on the single turret Pony Express, and in 45 minutes on the double turret machine.



Single Turret Pony Express



Double Turret Pony Express

Label Width	Label up to 4 7/8" wide	Label up to 4" wide	Label up to 3 1/2" wide
Capacity	65/min.	75/min.	80/min.

Labeling, Cartoning
Paper Box Machinery

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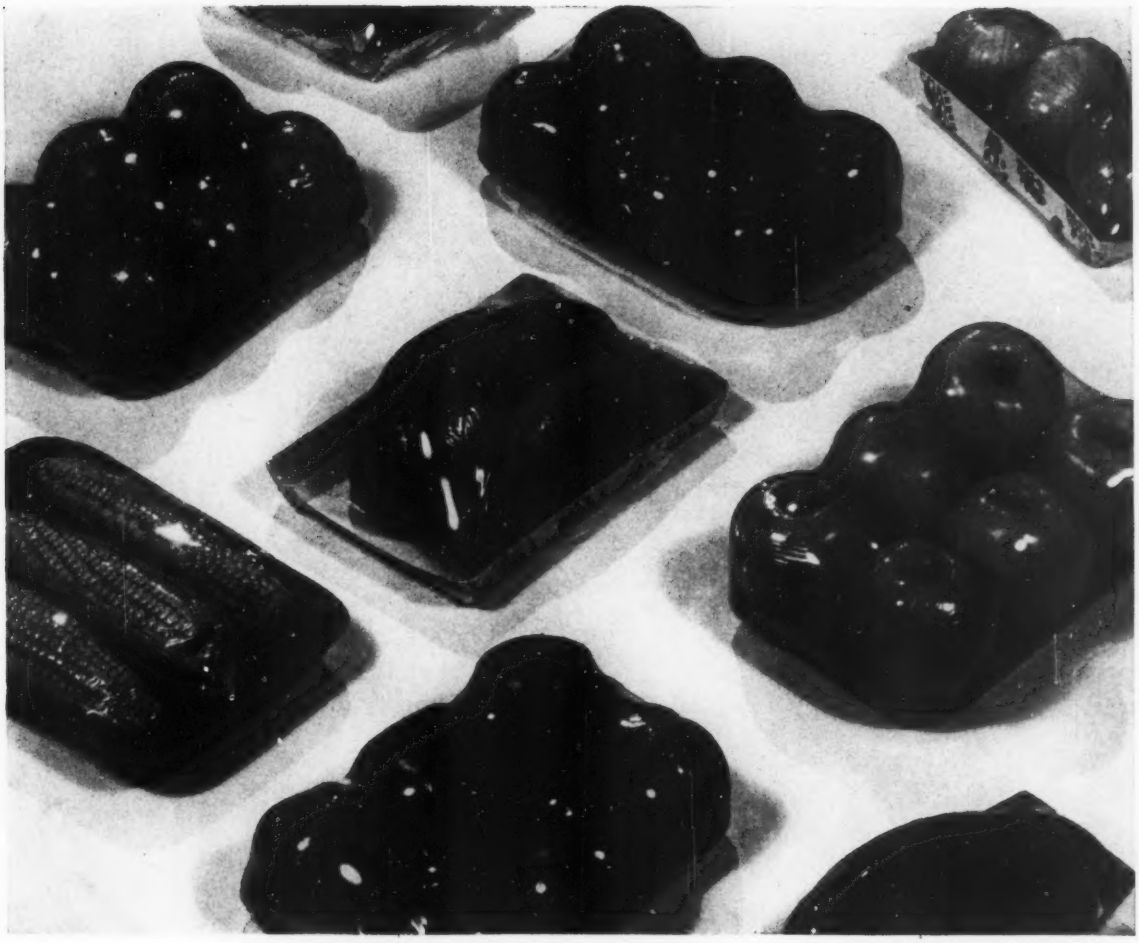


REYNOLON
PLASTIC FILM

protect produce profits

with **reynolon**

shrinkable, oriented PVC FILM

Fruit and vegetables stay fresher, look better in new oriented Reynolon PVC. The ideal film for automatic packaging at shipping point, distribution point or in-store, Reynolon helps minimize bruising and damage due to excessive handling. The unretouched photo suggests only a few of the wide variety of produce which can be packaged in this versatile plastic film.

Reynolon oriented PVC is crystal clear. It is shrinkable—provides a skin-tight package. It has high tensile strength, offers low temperature flexibility, has excellent shelf life. It is readily and quickly heat sealable and has an excellent printing surface. Reynolon PVC is also sealable by adhesives and can be laminated to aluminum foil, paper, chipboard and other materials.

For details and technical assistance on Reynolon films, contact your nearest Reynolds office. Or write **Reynolon,** *Reynolds Metals Company, P.O. Box 2346-RM, Richmond 18, Virginia.*

HYTRONIC®...
Modern Cutting for Modern Packaging

The new electronic concept in cutting is fast, efficient, and profitable. Already proven in blister packaging applications, electronic controls of United Hytronic® Cutting Machines make possible precision cutting of any shape, break the bottleneck between forming and packaging operations. Also cuts such packaging materials as cardboard, chipboard, foil and paper.

Cutting die heights can vary as much as 2½" without beam adjustment. Downtime and setup time are held to a minimum. Machine jamming is a thing of the past; dies last longer, die costs are lower.

Modern electronic controls function as brake and clutch to end time consuming mechanical adjustments. Positive, accurate cutting is assured whether single or multiple ply.

If you manufacture, mold, fabricate or package with plastics, consider United Hytronic Cutting Machines.

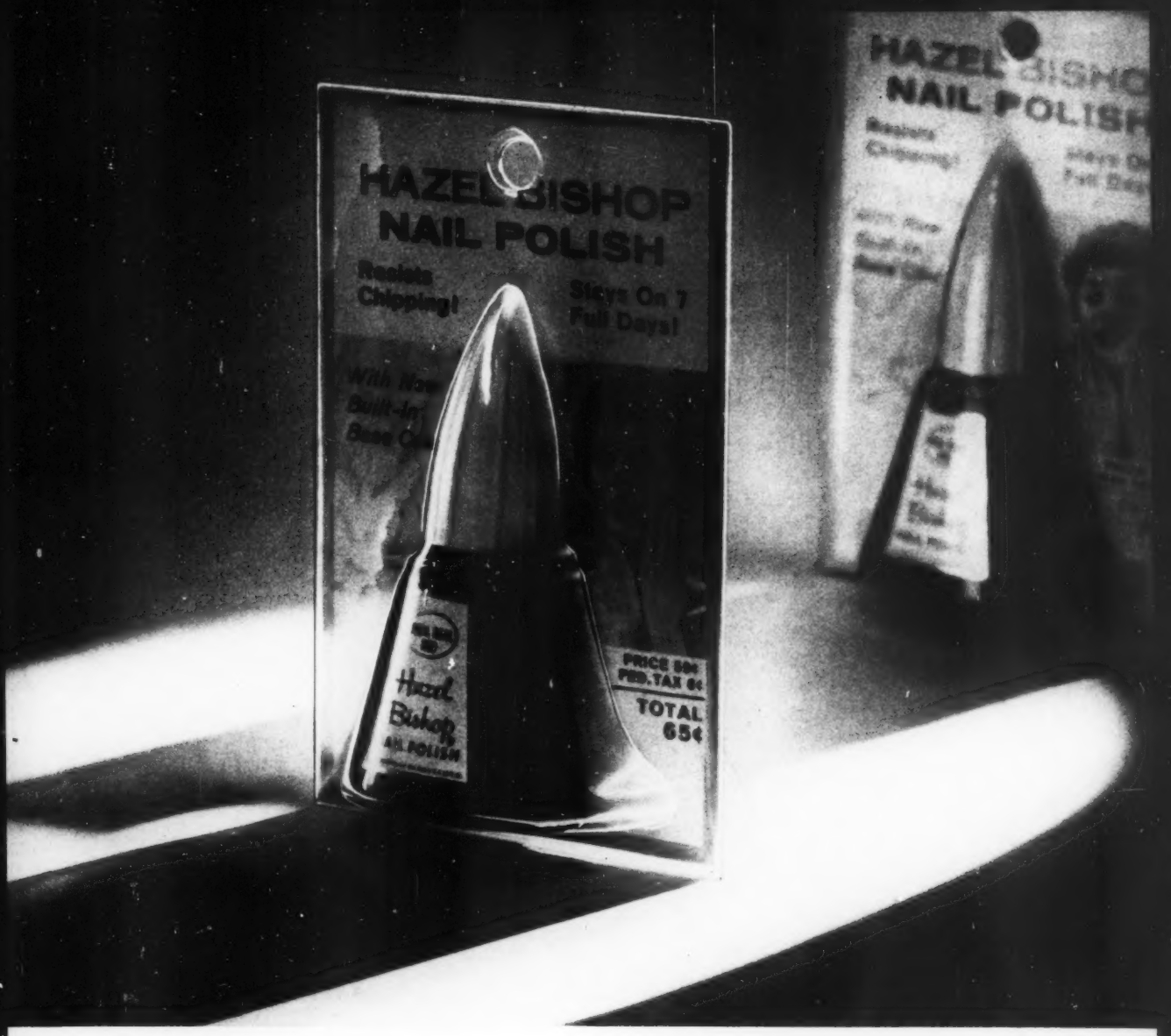
Call or write for more facts. Demonstrations arranged.

Available for sale or lease

United

UNITED SHOE MACHINERY CORPORATION
140 Federal Street, Boston, Massachusetts

To Cut Costs, Cut with United HYTRONIC Cutting Machines



DAVIS ACETATE aids beauty aids!

Cosmetic packaging must be as careful of its beauty as its users are!

And Hazel Bishop, Inc. protects its attractive full-color card by folding over and heat sealing a blister of DAVIS ACETATE . . . keeps it as immaculate, crisp and colorful as the day it was printed!

The smart shade of the nail polish, too, comes through the sparkling bubble to snare the shopper's eye!

The vacuum formed blister packages were produced by PLASTIC ENTERPRISES, COLLEGE POINT, N. Y.

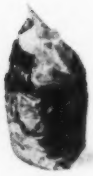
Davis extruded acetate sheets, rolls and film come in all gauges — transparent, translucent, or opaque — and are ideal for vacuum forming.

We have been supplying the packaging industry with plastic materials for over 40 years, and we would welcome the opportunity to help packagers with their problems. Let us send you a brochure on our facilities and the wide range of plastics we produce, together with their properties and applications.

PRODUCT BY HAZEL BISHOP, INC. • BLISTERS BY PLASTIC ENTERPRISES, COLLEGE POINT, N.Y. • EXTRUDED ACETATE BY JOSEPH DAVIS PLASTICS COMPANY

JODA

Joseph Davis
PLASTICS COMPANY
430 Schuyler Avenue, Kearny, N. J.
Phone: WYman 1-0980 New York: BArclay 7-6421



"May we tear your package to pieces, please?"

We'd like to examine it very carefully and, with all due respect, tear it apart. We don't charge for this. Any redesign and recommendations we come up with are yours gratis.

We do it because it brings us business.

In the past, we've proven to manufacturers that they were using unnecessarily expensive cellophanes. That they were using the wrong cellophane for the climates they were merchandising in. That the graphic design of the package was not in keeping with the color and texture of the product. We've made packages structurally sounder and we've revealed sealing flaws. We also know that a lot of manufacturers aren't using cellophane when they should be.

So may we have your package please?

Our staff is talented and eager, but not impetuous; they only tear packages apart when it's necessary. And they always put them back together again.

PACKAGING DIVISION Olin

Film Operations, 460 Park Avenue, New York 22, N. Y.

which of these extrusion coated and laminated materials are of interest to you?

1. Mylar/Poly
2. Mylar/Saran/Poly
3. Cellophane/Poly
4. Saran/Cello/Poly
5. Cello/Poly/Foil/Poly
6. Paper/Poly/Foil/Poly
7. Paper/Poly/Paper
8. Paper/Foil/Poly—adhesive mounted
9. Foil/Poly/Paper adhesive mounted
10. Foil/Poly/Paper/Poly
11. Cello/Poly/Cello
12. Acetate/Poly
13. Kraft/Poly
14. Sulphite/Poly
15. Pouch Papers/Poly
16. Fabric/Poly
17. Burlap/Poly
18. Other constructions (describe below)

Solve your problems with

consistently trouble-free extrusion coatings and laminates

produced on America's most rigidly controlled equipment.

Information and samples are yours without obligation—write today.

LAMINEX DIVISION

CELLU-CRAFT

Products Corporation

NEW HYDE PARK, NEW YORK

Telephone PRimrose 5-8000. Sales Offices in principal cities

DESIGNING of flexible packages. **PRINTING:** Glolux® Gravure, Process, Line & Tone Flexography on Cellophane, Polyethylene, Glassine, Extrusion Coatings, Laminations, Acetate, Pliofilm, Foil. **EXTRUSION COATINGS AND LAMINATIONS** on Cellophane, Foils, Mylars, Papers. **CONVERTING:** Rolls, Sheets, Bags, Pouches, Envelopes.

Cellu-Craft Products Corp.
Laminex Division
1401 Fourth Avenue, New Hyde Park, N. Y.

Gentlemen:

Please send me information and samples of the Laminates checked below.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17

18. Other types _____

_____

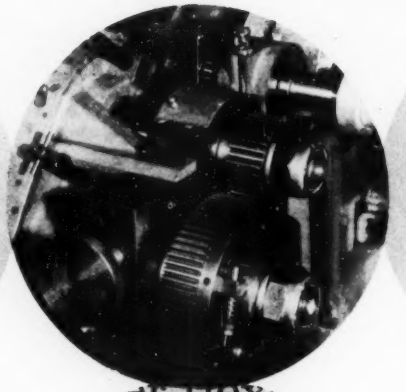
_____

Name _____

Address _____

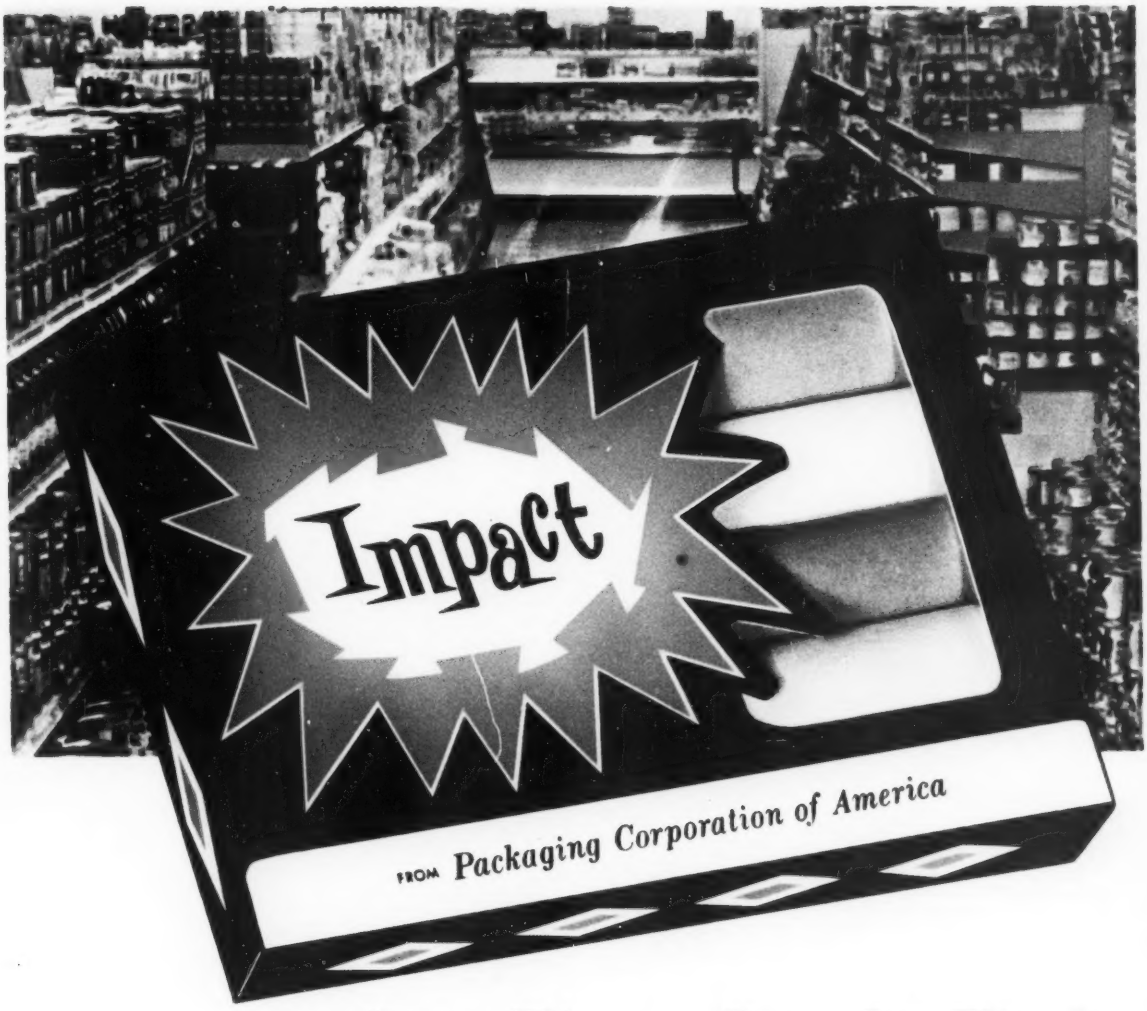
City _____ Zone _____ State _____

Title _____ Department _____



Sales Offices in New York City; Madison, Wisconsin; Los Angeles, California • Manufacturing Plants in Dover, New Hampshire

Find out how much it's costing you not to use a KIDDER FLEXOGRAPHIC PRESS. Investigate the up-to-the-minute features that are built into these 4- and 6-color Flexographic presses... to eliminate the cost of buying them later. Learn how you are Profit Protected by Kidder Performance Engineers... who assure consistently high output with every Kidder unit, from installation on. For details contact Kidder Press Company, Inc.



Seen First...Bought First... through FLUORESCENCE!

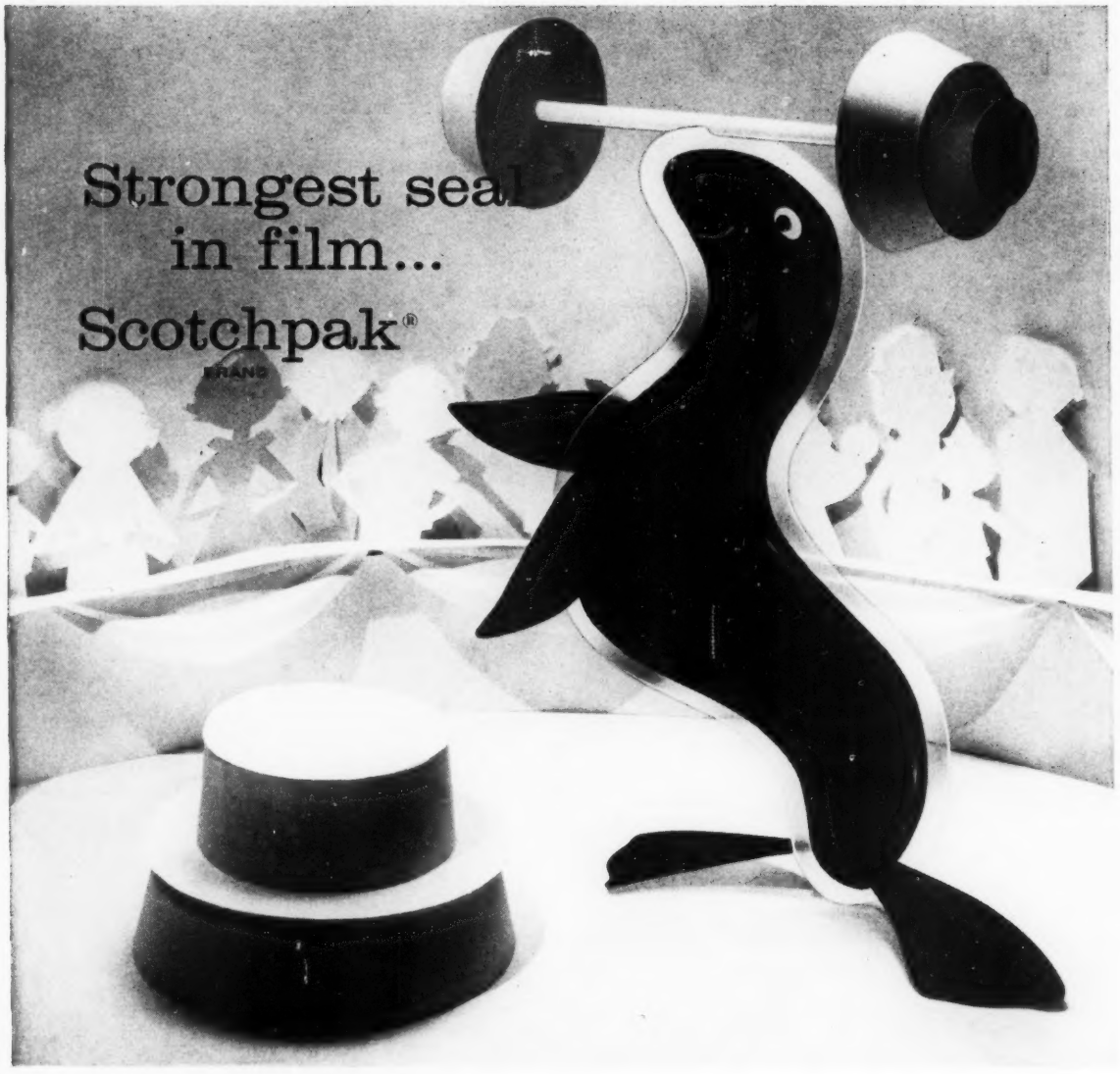
The impact of fluorescent colors creates new sales magnetism. They're seen *first* and *fastest.* Packaging Corporation pioneered this new technique — for *greater impact.* You'll see these fluorescent colors doing a harder selling job for a host of commodities. We think you'll want to consider their advantages for your own product packaging. Pioneering such advanced applications is but one of the countless ways our concept of Planned Packaging produces better packaging . . . more sales. Whether your requirements are large or small, regional or national, we welcome the opportunity to help you.

Planned Packaging moves merchandise

Packaging Corporation of America

1632 CHICAGO AVENUE • EVANSTON, ILLINOIS

Cartons • Containers • Displays • Egg Packaging Products • Molded Pulp Products • Paperboards • Plastics



If you've been frustrated by film seals that lose their grip, follow the example of Seabrook Farms. Try "SCOTCHPAK"— the heat-sealable film that never fails.

The tough, durable seal of "SCOTCHPAK" holds the answer to your flexible packaging problems. It is made differently than any other film on the market. "SCOTCHPAK" is specially tailored by 3M with the strictest quality-control supervision. It heat-seals easily at 300° to 400° F., 20-60 psi pressure, making a seam that is as strong and impermeable as the film itself. "SCOTCHPAK" stays strong and pliable year after year, at temperatures from −70° F. to 240° F. *If you have been let down by seals that let go, it's time you tried* "SCOTCHPAK." We will be happy to send you samples and work with your packaging people. Write or call Film Products Group, 3M Company, 900 Bush Avenue, St. Paul 6, Minn. Dept. ICA-61.

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

© 1961, 3M CO. "SCOTCHPAK" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.

CELONS BY THATCHER

Put color where it counts!

How Thatcher Celons help you seal with color...and sell with color

Up there at the eye-catching closure level—that's where neat, efficient Celon bands add a plus to your package. Celons seal in flavor, seal out dust and odors... prevent leakage... improve appearance... prohibit tampering. Feature your trade mark or sales message smack on top with Thatcher Celons. They cost so little, add so much.

Send us your container. We'll return it to you CELON-SEALED for your inspection. No charge, of course.

Thatcher

THATCHER GLASS MANUFACTURING COMPANY
375 Park Avenue New York 22, N. Y.
CELON DIVISION, Muscatine, Iowa PLASTIC CONTAINERS, Nashua, N. H. MCKEE DIVISION, Jeannette, Penna.

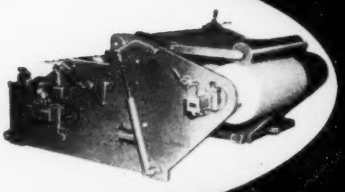
BREAK the PROFIT SQUEEZE

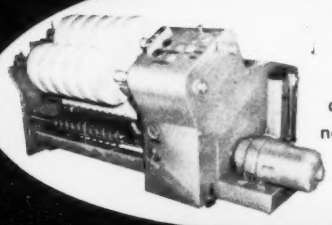
STANFORD SLITTERS

Produce Maximum Salable Stock on Every Job!

MODEL 200 SERIES
STANDARD SLITTER

Single shaft for processing wider, simpler slitting jobs.





MODEL 300 SERIES
"SUPER SLITTER"

Multiple shaft for narrow, complex slitting. Individual no-slip differential windings on each shaft.

Even a tiny difference in speed or control, multiplied by each day's volume production, can *make or break* your profit structure. That's why your slitting equipment must be the finest, most accurate on the market — and that means Stanford! Only Stanford *builds in* as standard equipment the important features of Constant Web Tension and Automatic Web Guide sold as "extras" on other makes.

Stop waste . . .
Save down-time . . .
Speed production
with Stanford

Write, wire, or phone today for full time-saving, money-saving details.

List of Users Upon Request.

Stanford ENGINEERING COMPANY

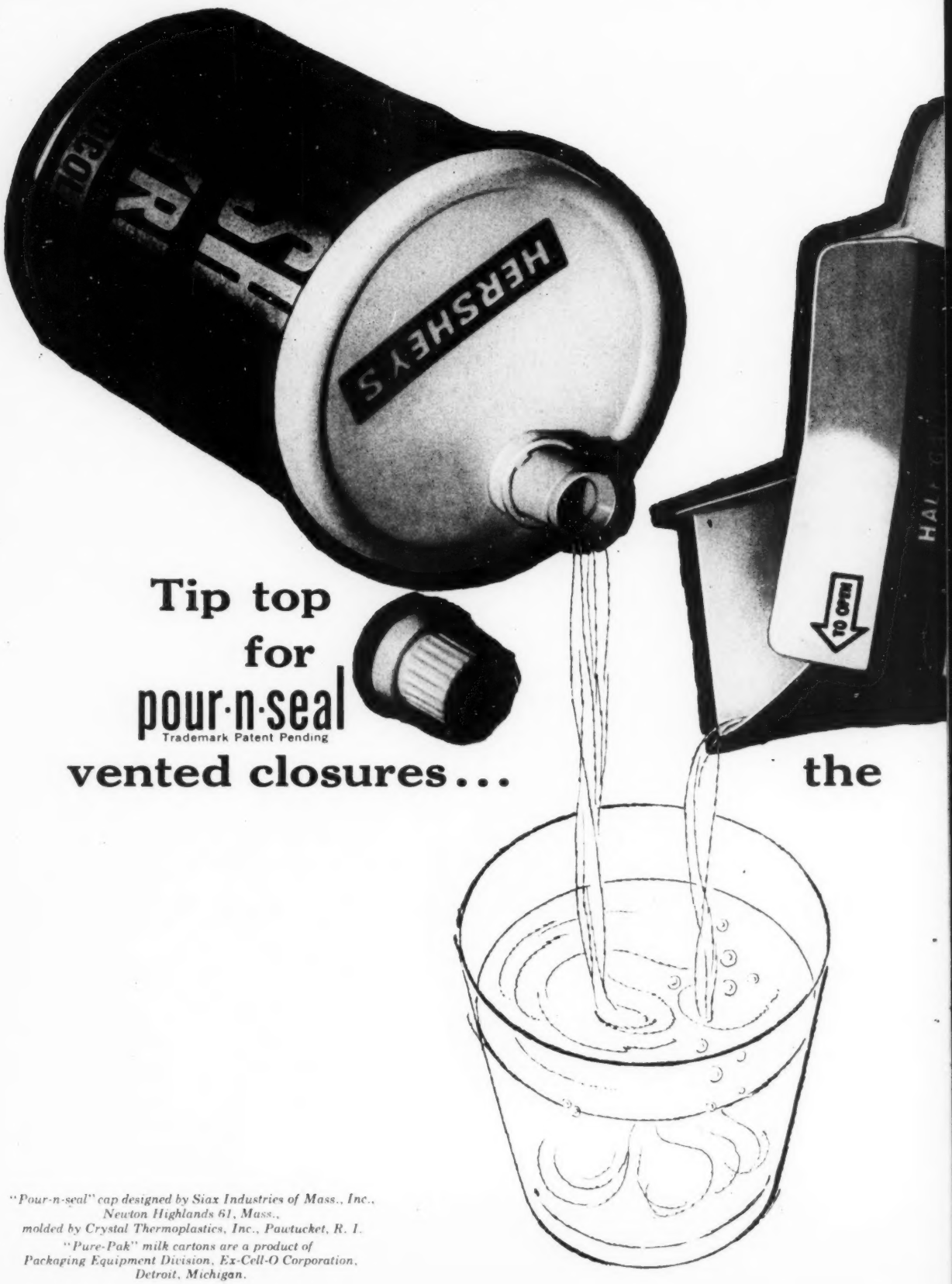
SALEM 3 ILLINOIS • PHONE SALEM 553
Canadian Rep. Gordon Keates 133 Flora Dr. Scarborough, Ont.
Manufacturers of Slitters, Web Guides, Rewinding and Constant Tension Equipment

You Name It!

You'd be amazed at the endless number of products that are packaged in Heekin Cans. The old phrase *from soup to nuts* really applies here. More and more products are being packaged in Heekin Cans, both plain and lithographed, every day. Add yours to the long list of items that sell profitably in Heekin Product Planned Cans. Call Heekin today.

HEEKIN
Product Planned
CANS

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS—SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS*



Tip top for pour-n-seal

Trademark Patent Pending

vented closures... the

"Pour-n-seal" cap designed by Siax Industries of Mass., Inc., Newton Highlands 61, Mass., molded by Crystal Thermoplastics, Inc., Pawtucket, R. I. "Pure-Pak" milk cartons are a product of Packaging Equipment Division, Ex-Cell-O Corporation, Detroit, Michigan.

cream of coatings for milk cartons

ALATHON®

the polyethylene resins that bring new versatility to packaging

A natural combination—chocolate syrup and milk! And a natural choice—an ALATHON resin for a molded, reusable "Pour-n-seal" closure-dispenser that eliminates dripping and surging . . . a coating of ALATHON for a wax-free, leakproof milk carton.

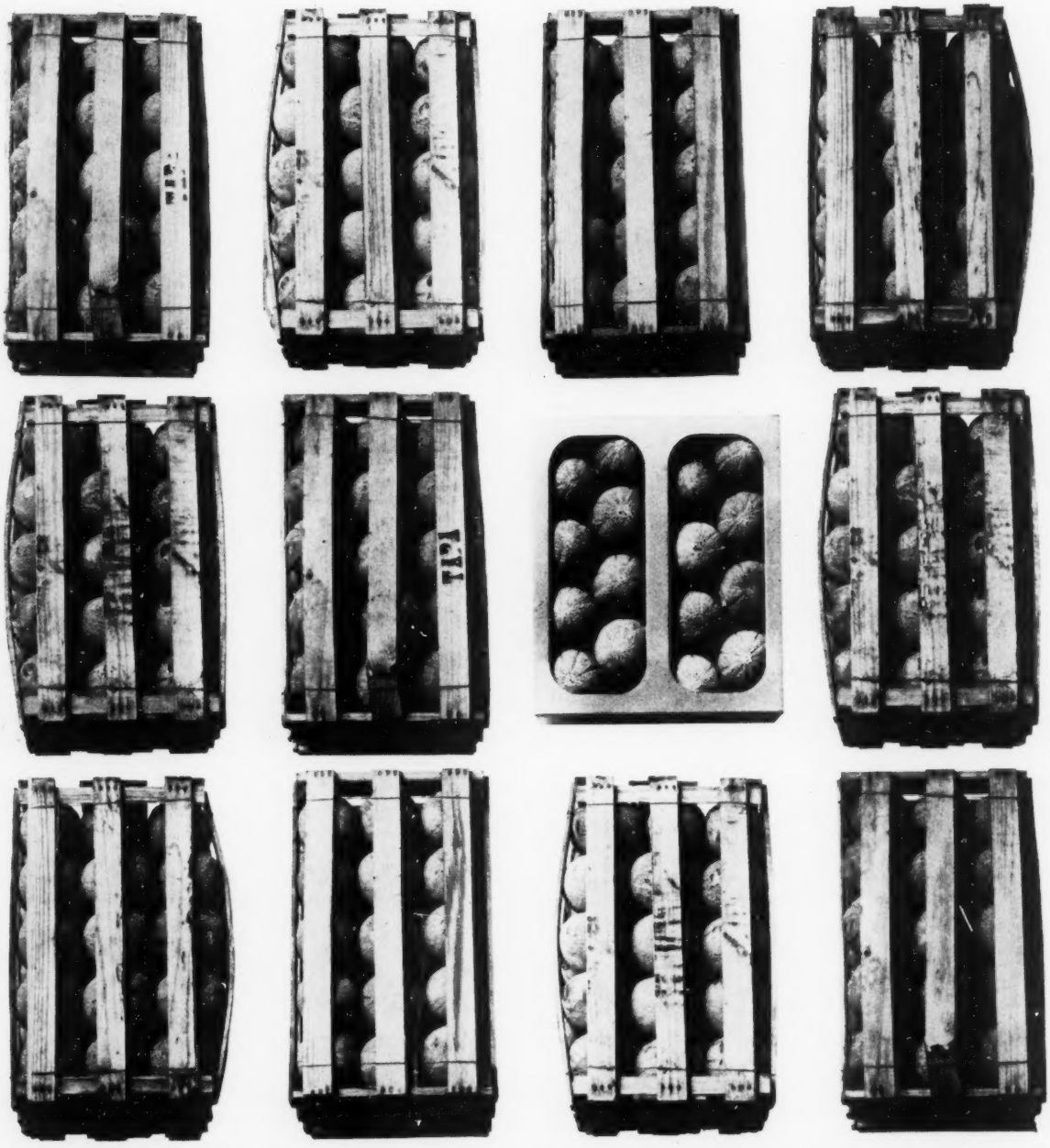
Why? Well, name the properties you want in polyethylene, and you'll find them in one of the ALATHON resins tailored for packaging uses. For molding applications—easy moldability, freedom from warping, proper stiffness, resistance to stress cracking, faithful reproduction of mold detail, fast cycles. For coating applications — permanent adhesion to substrate, strong heat seal, low neck-in, fast coating rates.

Whatever *your* packaging need, you can be sure of a resin designed for your particular application when you include an ALATHON polyethylene resin in your package planning. Your supplier can help you select the particular formulation of ALATHON that will best do the job for you. Or write to: Du Pont Company, Dept. MPA-6, Room 2507A, Nemours Bldg., Wilmington 98, Del. *In Canada:* Du Pont of Canada Ltd., P.O. Box 660, Montreal, Quebec.

POLYOLEFINS DIVISION
POLYCHEMICALS DEPARTMENT

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY



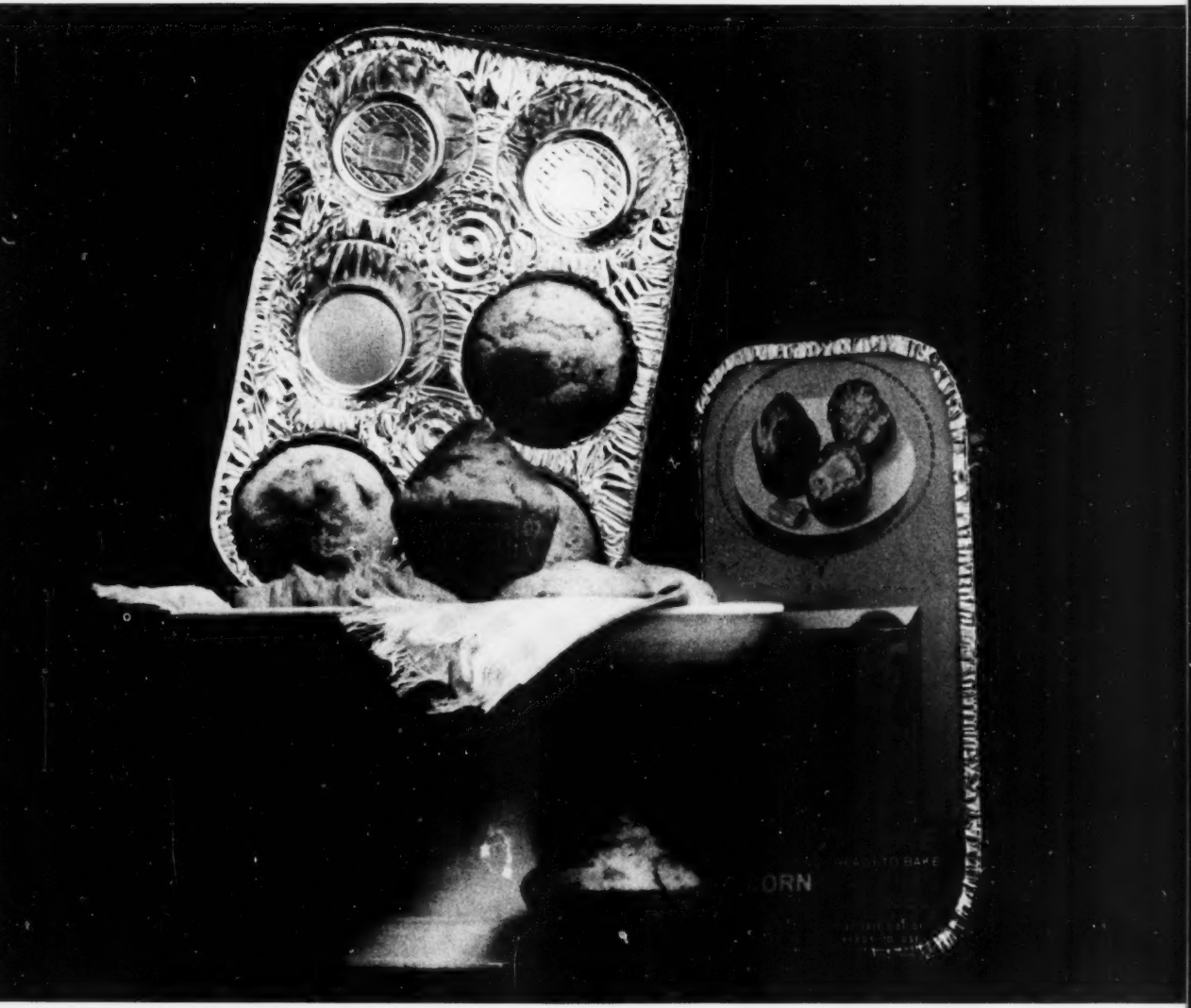
WHICH ONE COMES FROM FIBREBOARD?

Which container was created by a team of produce specialists — including designers and engineers, salesmen and scientists? Which container comes from the company where every major industry is covered the same, sensible way: by teams of experts in that specific field? Which container, in short, comes from Fibreboard? Your customers can pick it out . . . and do.

The container from Fibreboard: Forty-Niner . . . the corrugated case for cantaloupes that cuts freight costs, prevents bruises, provides better ventilation, permits inspection at a glance. Shouldn't your containers come from this kind of company? Write: Fibreboard Paper Products Corporation, 475 Brannan St., San Francisco. (Also New York, Chicago, Los Angeles, other major cities.)

FOR THE COMPETITIVE EDGE IN PACKAGING CALL A·C·T...ALUMINUM CONSULTING TEAM!!

A-C-T gives you the services of five groups of specialists skilled in all phases of aluminum packaging. Package Design, Package Development, Process Development, Package Equipment, Research and Food Technology. Their work in connection with leading converters is coordinated by a Clearing Committee. Your local Kaiser representative is the focal point for all A-C-T services. He is your "Man on A-C-T."



Downyflake Foods, Inc., had a tough problem. They needed a package in which their new muffin product could be frozen, sold, and baked in the consumer's oven. A deep-well, multiple-cavity package fillable on automatic equipment and without carton or overwrap. Rigid foil was the answer, yet leading designers said it wouldn't work. A-C-T, Kaiser's Aluminum Consulting Team, proved beyond any doubt that it could...and did it! Another success story, dramatically demonstrating (1) the versatility of Kaiser Foil for packaging is unlimited, and (2) your packaging problem can also be solved, creatively and competitively, with Kaiser Aluminum Packaging. For details, write A-C-T Packaging, Dept. 3, Kaiser Aluminum & Chemical Sales, Inc., 300 Lakeside Drive, Oakland 12, California.

KAISER ALUMINUM

"New leadership in the world of aluminum"

SEE "HONG KONG" AND "MAVERICK" WEEKLY ON ABC-TV NETWORK

*Trademark Kaiser Aluminum & Chemical Corp.

Oneida puts "Attraction"

In flexible packaging!

Give your product the point-of-purchase plus of dynamic packaging—packaging that brings production running and leads them to the cash register! Oneida has specialized in putting attraction into packaging for over 30 years . . . it's an art that requires skill in designing, to combine the right materials, design and color printing and incomparable brilliant printing as a result of a battery of electronically controlled 8-color combination flexographic-rotogravure and lithographic equipment. And you get prompt service from our strategic plants that serve the nation.

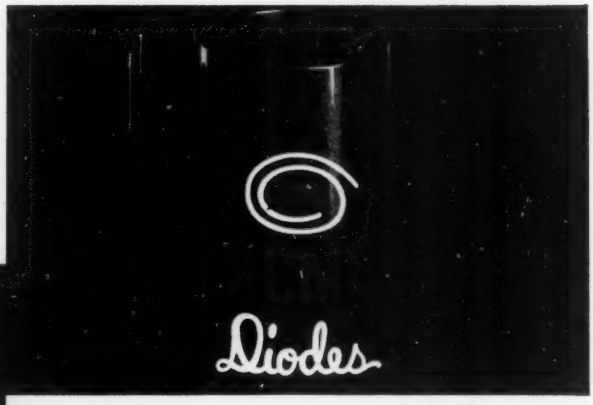
whatever your product...

flexible packaging by Oneida

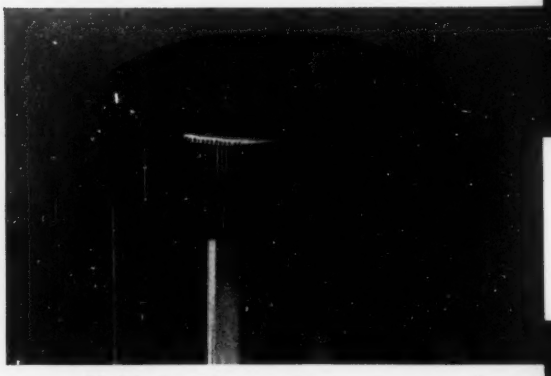
will surround it with SELL!

Oneida® PAPER PRODUCTS, INC.
10 Clifton Blvd., Clifton, N. J.
Baltimore, Md. • Centralia, Ill. • Los Angeles, Cal. • Sales Offices in All Principal Cities
CONVERTERS AND COLOR PRINTERS OF QUALITY PACKAGING from Glassine, Cellophane, Polyethylene, Vinyls, Parchment, Sulphite, Foil, Kraft, Waxed, Coated and Laminated Materials

LERMER Adds Important NEW Features to *flexible acetate containers*



• Clear, flexible extruded containers • Full width straight opening • No turned-in top • Easy to fill and empty • Streamlined • Seamless • Can be printed up to 4 colors



• Molded polypropylene closures for uniform fit • Knurled for easy grip • Engineered to hold tight—Easy to remove and replace • Closures available in assorted colors • May be hot stamped in contrasting color with trade mark or other desired copy

• Reinforced molded bottoms • Firm wide base — Prevents tipping over • Available in colors

• Containers available in diameters from ¼" through 1¼" • Any lengths up to 7" — Longer lengths on special order • Can be furnished in long lengths open at both ends. You can make your own containers by cutting to your sizes. We furnish closures.

Now is the time to consider the flexibility, the protection, the beauty, the features and economy of Lermer flexible plastic containers. Ideal for many products. **Write today for samples.**

ALSO A COMPLETE LINE OF RIGID MOLDED CONTAINERS

LERMER PLASTICS, INC.

502 SOUTH AVENUE • GARWOOD, NEW JERSEY

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

Riegel

Creative Climate for Tomorrow's Packaging

...the new ideas come from **Riegel**

"Flavor fresh" inner packs . . . four sealed units containing three biscuits each . . . keep Nabisco Shredded Wheat oven-fresh and crumb-free. Just open them as you need them. For the best in protection . . . and sales appeal . . . Nabisco uses a special opaque cereal wrap by Riegel.

Whether you need the last word in protection and convenience . . or eye-catching sales appeal . . . or simply economy . . . Riegel can help. You'll be interested in the new, broader range of Riegel materials and services. Write today.

RIEGEL PAPER CORPORATION, 260 MADISON AVENUE, NEW YORK 16, NEW YORK

Specialist in the packaging of foods, drugs, and soft goods

Flexible packaging...carton board...folding cartons...carton liners

Bacteria barrier for BAND-AID Adhesive Bandages... another example of flexible packaging by Riegel

BAND-AID Adhesive Bandages are protected with a special sterilizing glassine, made and printed by Riegel.

Johnson & Johnson sets tough specifications for BAND-AID Bandage packages. The glassine must zip through high-speed machines and seal tightly. Next it must breathe in a torrid autoclave to kill harmful bacteria. And then, once the BAND-AID Bandage is sterilized, the Riegel glassine must keep it that way until the envelope is opened.

Sterilizing at high temperatures may not be your aim, but you'll benefit by reviewing the wide range of Riegel packaging materials . . . papers, films, foils and combinations . . . waxed, coated, printed or plain. Riegel tailor-makes packaging to meet specific needs. Write today . . . for the new ideas come from Riegel.

Specialty Products Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
Flexible packaging materials
for foods, drugs and chemicals.

Why Burlington brought its new "Eye-dentity" packaging to Lassiter

Die-cut inserts, printed 3 colors on Riegel "Foldcote"™... poly envelopes... all elements of Burlington's bright new color-coded packaging come from one experienced source: Lassiter.

Experience you can bank on... that's why Burlington brought their new Donald Deskey designs to Lassiter. As the leading specialist in soft goods packaging, we understand both sales and production problems. We know how to create packages that will catch the shopper's eye, promote sales ... and fit your production set-up.

This kind of *practical* creative packaging can help you. Write or phone Lassiter today.

Lassiter Division
RIEGEL PAPER CORP., 350 Fifth Ave., NYC 1 • Charlotte 4, N.C.
Specialists in soft-goods packaging. Designers and producers of film, foil, paper and paperboard packaging, inserts, riders, labels, bands and tags.

McCormick Seasonings...Another quality food product that now uses Riegel Foldcote™

Product displays must be strong, rigid, attractive. That's why McCormick uses display-shippers made of Riegel "Foldcote" board. Printed letterpress in two colors by Guilford Folding Box Co., Div. Interstate Container Corp., Baltimore, Md.

For noticeably stronger, brighter cartons . . . and extra eye-appeal . . . try Riegel's outstanding new full-bleached carton stock . . ."Foldcote". Super-white for color brilliance, super-smooth for high fidelity reproduction, super-strong for rugged, rigid packages that keep that clean look.

Your future, too, can be brighter with "Foldcote". Ask for samples and information. Ask too, about other Carolina solid bleached boards. Export inquiries invited. Call Riegel today . . . for the new ideas come from Riegel.

Carolina Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
"Foldcote" machine-coated bleached boards
"Albacel" and "Astracel" pulps

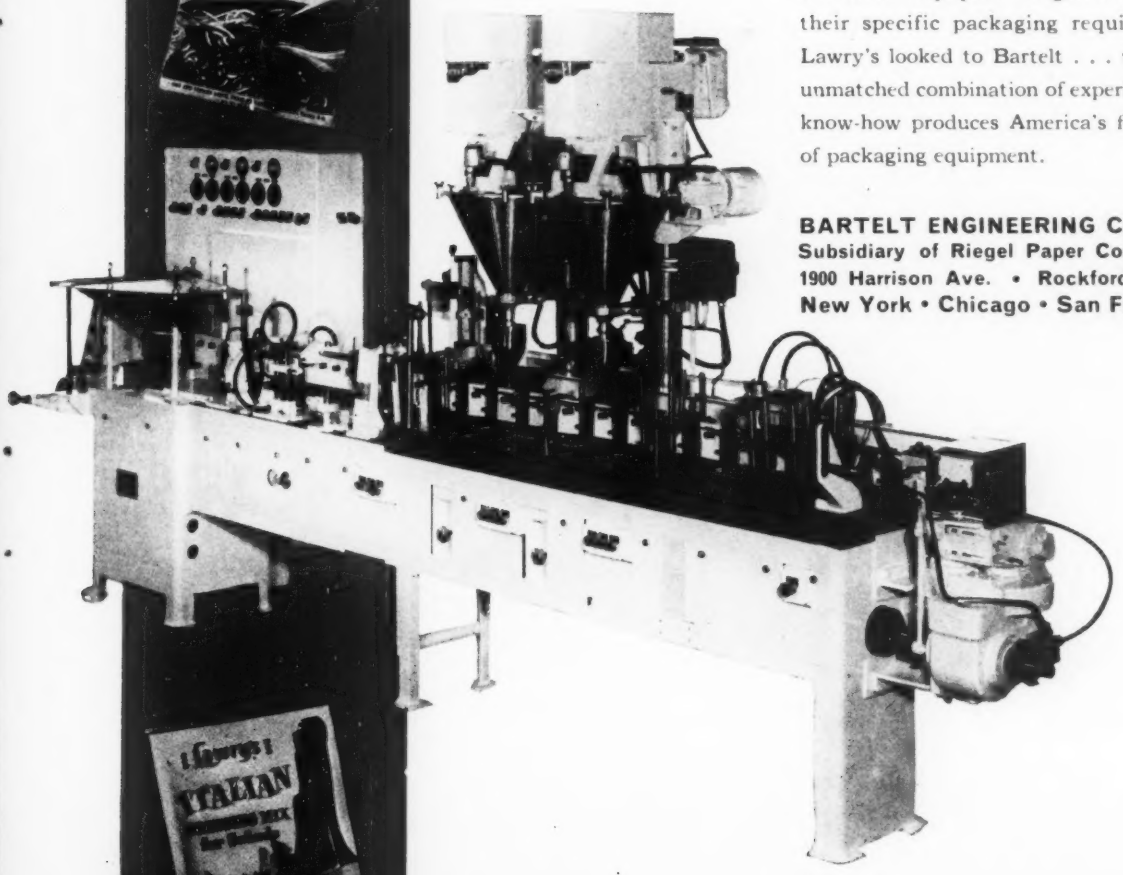
BARTELT

packaging machinery is on the job for...

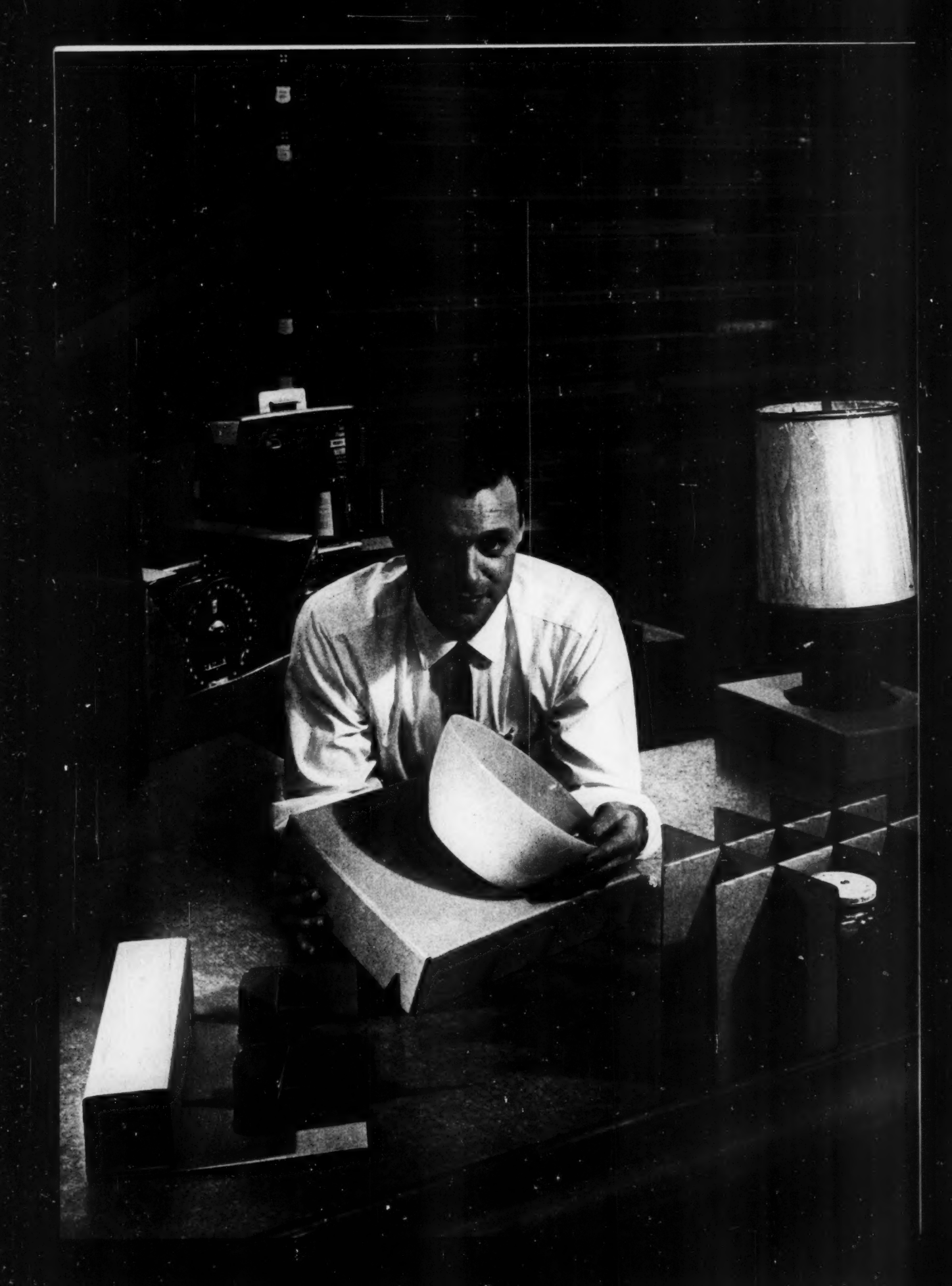
Lawry's

The flavor and aroma of the world's finest spices are blended in Lawry's popular mix products . . . and delivered to the consumer's kitchen in these attractive, protective, flexible pouches . . . formed, filled and sealed on Bartelt packaging machinery.

For custom equipment engineered to meet their specific packaging requirements, Lawry's looked to Bartelt . . . where an unmatched combination of experience and know-how produces America's finest line of packaging equipment.



BARTELT ENGINEERING CO., INC.
Subsidiary of Riegel Paper Corporation
1900 Harrison Ave. • Rockford, Illinois
New York • Chicago • San Francisco



No wonder his wife leaves the packing to him!

You can count on Union-Camp box designer Bob Pyle to come up with the most efficient corrugated interior packing—no matter what the product or how it is shipped.

THE GLASS BOWL in our picture is safe enough in Bob Pyle's hands. The trick is to see that it travels just as safely once it is packaged.

This takes an unusual combination of skill and experience. The kind Bob is known for. Bob is one of a team of Union-Camp corrugated box engineers who specialize in *interior* packaging of a product.

It's a challenging specialty. Just consider the problems of packaging a television set, for instance. Says Bob: "The set must be *locked* in position and perfectly cushioned against shock. Then we have to allow sufficient clearance on all sides so that the *finish* is protected against scratches. And the box should have sufficient stacking strength so that it can be tiered up high in the warehouse.

"Then there's the packing operation to consider. The box must be adaptable to high-speed assembly line operation so that the job can be done as quickly and cheaply as possible—consistent with the protection needed."

Other products, Bob points out, may call for different types of safeguards in the package. To keep out dust. To prevent corrosion or spoilage. Actually, the forms of inner packing are as varied as the items they protect.

Some of these items are well-known: food products, canned beverages and appliances, for example. But some others may surprise you. High-voltage equipment weighing over 300 pounds. Centrifugal pumps. Heavy industrial sewing machines. Formerly they required expensive crating. Now they travel safely and economically in custom-tailored containers developed by Union-Camp box designers like Bob Pyle.

Oddly enough, small-cost items often can create the biggest problems. One case in point was a lamp sold in variety stores for only $2.98. It was made of a fragile plastic, and the manufacturer's profit margin was so low that he had almost no budget for the intricate packaging that would seem to be necessary for proper protection. Bob Pyle devised a simple, inexpensive inner packing unit. To date, not a single lamp has reached its destination in a damaged condition!

Could a Union-Camp box designer like Bob Pyle help improve your product's protection, reduce your packaging and shipping costs? The answer is as near as your telephone. Call in a Union-Camp corrugated box representative. He'll tell you about our complete packaging evaluation program. It includes package analysis, box design and development, specifications control, merchandising counsel and in-plant surveys of your materials handling operation.

Or, a note on your letterhead will bring a prompt reply. Why not write today?

UNION-CAMP®

CORRUGATED BOXES

Union Bag-Camp Paper Corporation 233 Broadway N.Y. 7, N.Y.

Plants:

*Dedham, Mass.: Allied Container Corp., Route 128, Allied Drive
Trenton, New Jersey: 1400 E. State St.
†Washington, Penna.: P.O. Box 285
†Cleveland, Ohio: 10200 Miles Ave.
†Sharonville, Ohio: P.O. Box 86
Chicago, Ill.: 4545 West Palmer
†Benton Harbor, Mich.: 11th St. & Britain Ave.
†Monroe, Mich.: 1109 East Elm Ave.
†Eaton Rapids, Mich.: P.O. Box 8
*Baltimore, Md.: Eastern Box Co.: Wagner's Point
Jamestown, N.C.: 3704 Point Pleasant Rd.
Spartanburg, S.C.: P.O. Box 1965
Savannah, Georgia: P.O. Box 570
Lakeland, Florida: P.O. Box 454

*Subsidiary Companies †River Raisin Division

Action is the reaction to Nibroc PRINT-PAK. This whiter, brighter flexible package carries your product's appeal so well that your product gets carried away — in quantity.

Pressmen know the superior printing qualities of Nibroc PRINT-PAK. Its faster, trouble-free runs plus its sales attraction advantages are the reasons "Name Brands" — from coffee to baked goods to dog food — select Nibroc PRINT-PAK. Write for samples and complete information to Dept. MP-6.

Bring your product and customers together with Nibroc PRINT-PAK.

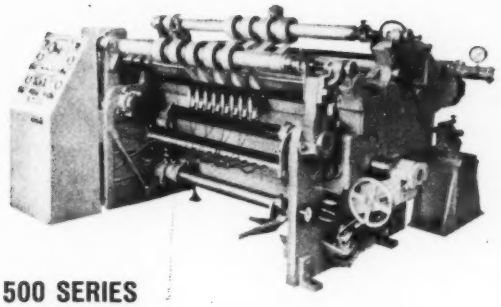
Another Quality Product of

BROWN COMPANY

General Sales Offices: 150 Causeway Street, Boston 14, Mass.
Mills: Berlin and Gorham, New Hampshire

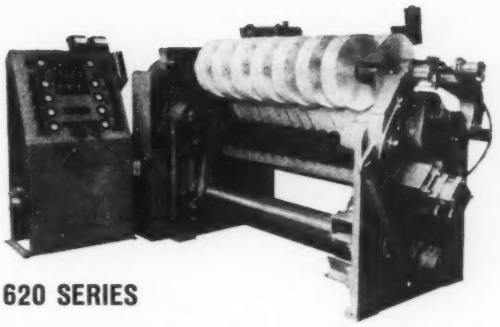
Customers are taken with it!

NIBROC®
PRINT-PAK



500 SERIES

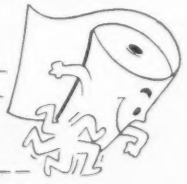
A standard, multipurpose duplex slitter-rewinder for papers, films, foils, fabrics and other web materials. Speeds to 2000 fpm. Trim widths to 62". Rewind diameter to 20" maximum. Combination surface-center rewind using the differential driving principle. Rolls alternately wound on separate shafts. Score, shear, or razor cut, single or in combination. Also, Sealcut® electrically heated slitters.



620 SERIES

A heavy-duty duplex slitter-rewinder for papers, films, foils, laminates and other off-caliper materials. Speeds to 1000 fpm. Trim widths 32" to 72". Rewind diameter to 20" maximum. Combination surface-center rewind using the differential driving principle. Rolls alternately wound on separate shafts. Score, shear or razor cut. Can also use Sealcut® electrically heated slitter elements.

Cut web-fed production costs with the superb running qualities of The New Roll

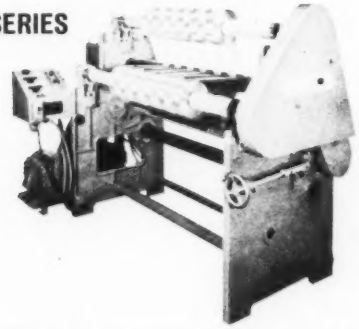


Almost any finished roll of paper, film or foil, plain or printed, can look good on the outside. But, when a roll has been made with extreme care to assure fine, dependable *running* quality we call it The New Roll. The test is not how nice a roll may look, but how well it *performs*. Does it give you a long, low-cost, trouble-free run in high speed printing and converting? Does it keep your material fresh and *alive*, for better end results, or is it stretched out *dead* in the roll?

Superb *running* quality can be produced efficiently and economically *only on a truly integrated roll production system* designed to maintain optimum roll control all the way from unwind to rewind, with all controls adjustable and adaptable to the characteristics of the material to be handled, the quality of the parent rolls, and the intended service of the finished rolls. The truly integrated roll production system, we think, is a job for specialists only.

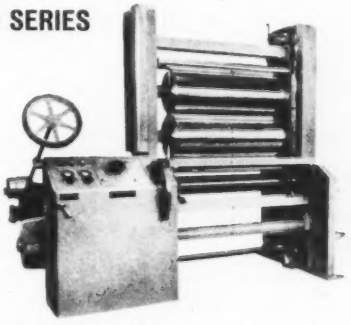
CAMERON
a team of specialists

550 SERIES



A light versatile, low-cost slitter-rewinder for films, foils, papers and other materials. Speeds to 500 fpm. Trim widths 32", 42", 52" or 62". Rewind diameters to 15" maximum. Center winding using the differential driving principle. Rolls alternately wound on separate shafts. Choice of razor, score or shear-cut slitting. Integrated unwind with air operated brake and manual side shift control. Optional built-in pneumatic edge guide.

400 SERIES



AA-394

A versatile, highly productive two-drum slitter-rewinder shown here in use as a foil separator for handling lightweight 2-ply foil, with each ply winding on a separate shaft, each rewound roll 15" maximum diameter. The 400 Series is adaptable to a wide variety of other materials. Speeds to 1000 fpm. Trim widths 32", 42", 52" and 62". Rewind diameter (single roll) 30" maximum. Two-drum surface winding. Choice of pneumatic score-cut or shear-cut.

For a quick review of the most comprehensive line of roll production equipment in the industry, write for new Cameron Bulletin **6010**

Cameron Machine Company, Franklin Road, Dover, N. J.
Canada: Cameron Machine Co. of Canada, Ltd., 14 Strachan Ave., Toronto, Ont.
France: Cameron Europe S/A, 5 Rue de Prony, Paris (17e) France
Brazil: Cameron Maquinas Ltda., Rua 24 de Maio, 104-5°, Sao Paulo, Brasil
famous TIDLAND pneumatic shafts are sold exclusively through Cameron

Look what's new in food packaging

NEW MEMBER OF THE HOFFMAN HOUSE FAMILY. This 16-oz. package joined the family mostly because of the lusty growth of the earlier 8-oz. version. And the folks at Hoffman House are convinced the Armstrong design had a lot to do with that package's increased sales. Consequently, the new bottle is essentially a scaled up version with all the advantages of the original. It's easy to hold and pour from, and the rectangular base always faces the label squarely forward. Doesn't sound nearly as spectacular as that sales increase. But you don't get one without the other. We'd like to help do the same for your next package.

Armstrong PACKAGING

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

Background for Packaging

Notes, quotes and comments. An editorial feature

Was '60 a bad year? According to U.S. Dept. of Commerce figures, packaging and container volume last year was the second highest on record, only 2% below the 1959 peak. Rigid aluminum foil containers scored the biggest gain—9%. Record volume was reported also in converted flexible packaging, fibre cans and tubes, set-up paper boxes and glass containers. The only substantial losses—10% each—were shown by steel shipping drums and pails, and nailed wooden boxes and crates. The upturn in packaging began in the fourth quarter, when container shipments, compared with '59, reversed the progressive down trend of the previous three quarters.

The paper industry is feeling better, as the capacity-demand ratio once again moves into better balance. The prospect of an accelerated growth in demand, accompanied by a decrease in the rate new productive facilities are added, seems likely to cut into excess capacity which plagued the paper industry over the last four years, *David L. Luke*, president, West Virginia Pulp & Paper Co., told stockholders at company's annual meeting.

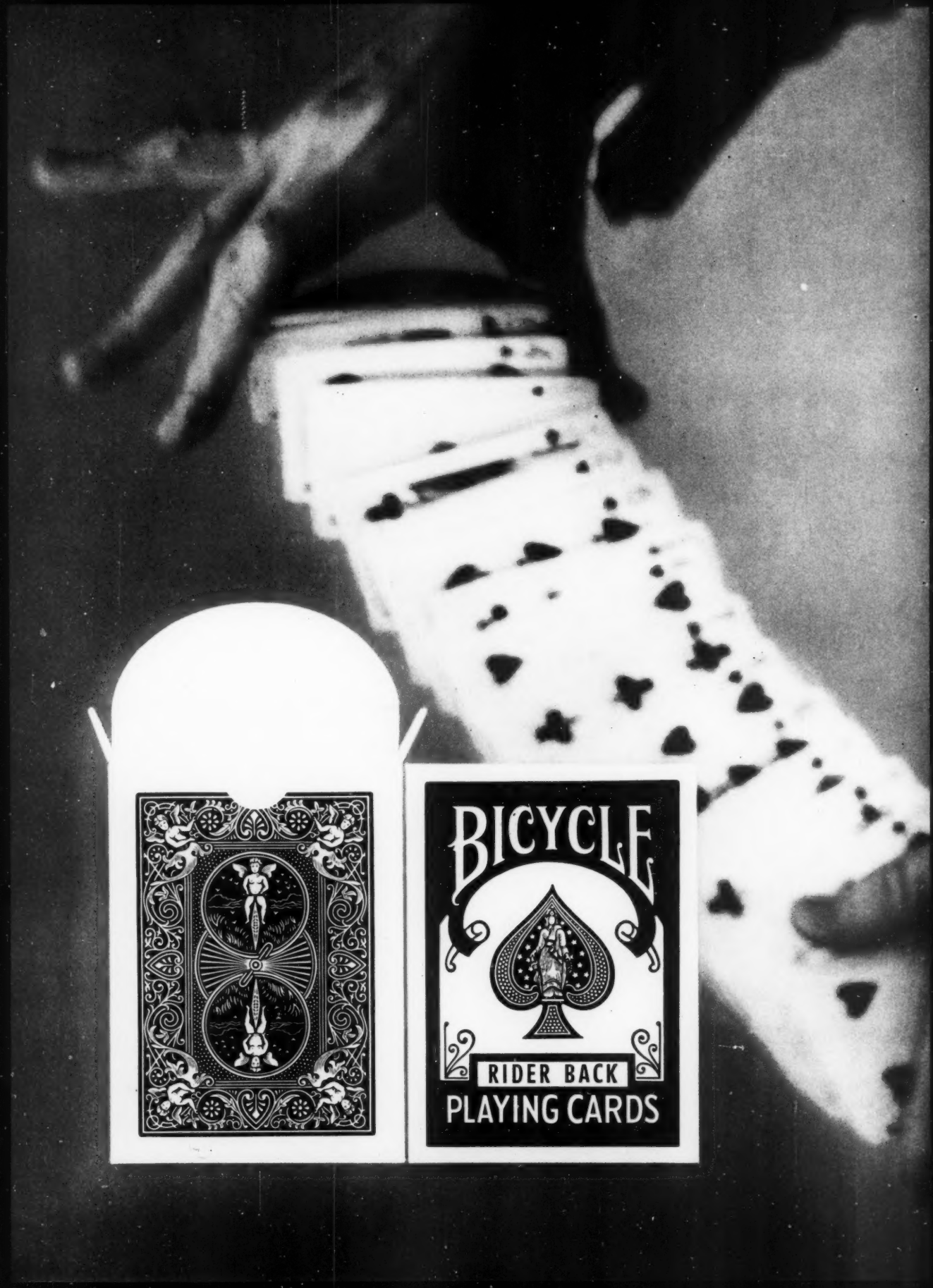
Significant development in single-barrier paperboard is Potlatch Forests' announcement of a new grade of cartonboard bearing a thin emulsion coating of polyvinylidene chloride. The coating, perfected by Dewey & Almy, has, says Potlatch, "enabled us to impart the high-barrier properties of saran-type plastics to paper and paperboard at moderate cost. . . . We expect to hold traditional paper markets and we anticipate that paper will be able to compete in packaging applications where before only plastics, metal and glass containers could be used." This is the first of several expected announcements of saran-type coatings on board and paper.

Good showmanship was evident at the AMA Packaging Show in the vast new McCormick Place in Chicago. Booths were larger, on the average, than usual (attributable also to the need in some cases to display the products of newly acquired companies). One exhibitor had four booths at the intersection of two aisles, thereby capitalizing on a four-way flow of traffic. Several others positioned their exhibits strategically on either side of an aisle.

Cellophane's big pitch for lower prices with higher-yield films may have repercussions in polyethylene. Du Pont's surprise show announcement of six new ultra-light cellophanes, with same strengths and 5 to 19% more yield per pound, brings cellophane to a new low price of 2.8 cents per 1,000 sq. in. for many wrapping operations. This comes very close to the present cost of 1.5-mil low-density polyethylene film (about 2.4 cents) and seems to insure that any price move on PE film will be down, not up.

Big breakthrough in pouch packaging may be at hand with a new machine reportedly engineered for an ultimate speed of 600 packages a minute. The continuous-motion machine was operating at the Chicago show at 300 a minute, using polyethylene. The secret is in the use of smooth-running orbital motions to perform filling and sealing operations; this has jumped output five to 10 times over the previous single-head standard machines.

Milk men are startled by prediction of *Lew Hayhurst*, packaging research manager of National Dairy, that within 10 years an all-plastic milk bottle may wholly replace the present paper container. Only one such container, still experimental, has been seen in this country, but Mr. Hayhurst points out that such a package is widely used in France, where high production speeds are not demanded. Perfection [*Continued on page 44*]


BICYCLE
RIDER BACK
PLAYING CARDS

52 reasons for packaging with BRITE-PAK ENAMEL COAT

The United States Playing Card Co. uses Brite-Pak Enamel Coat bleached board to package its famous Bicycle cards because it gives them such a rich, clean-looking box. So do companies that sell cigarettes, foods, drugs, cosmetics and other consumer products that require customer shelf-appeal.

West Virginia's Enamel Coat is crisp and snowy white inside and out. It has brilliant printability. It gives the product get-up-and-go...and, it's economical.

Does your package have all the sales appeal it should? See how Brite-Pak Enamel Coat can help. Write Bleached Board Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, New York.

West Virginia Pulp and Paper

Continued from page 41

of high-speed plastic-container production machinery could bring a quick switch in U.S. dairies, Mr. Hayhurst told AMA Packaging Conference.

Watch the growth of shrink films, of many types and in many applications. A tour of the Chicago show disclosed at least eight types now in use—as band wraps for trays, as container covers, as overwraps for cartons and in deal promotions to combine packages or items. Biorientation will give almost any plastic film the property of shrinking under heat for a skin-tight fit. Leading in present applications are shrink-type polyethylenes, vinyls, polyesters, polystyrenes and the original shrink film, Cryovac.

Note the moves by two major packaging-materials producers into forming or converting of their own products. *Dow Chemical* will form rigid plastic containers and produce blown bottles at its Findlay, Ohio, plant. *Alcoa* announced at the packaging show that it was re-entering the foil-conversion business after a lapse of some years, using the Chicago printing facilities of R. R. Donnelley & Sons. Behind both moves are similar motives: to broaden the markets for all by helping to find improved production methods and new sales opportunities.

Size trend in ice-cream packages may be indicative of housewives' willingness to buy large sizes if the package is easy to store and easy to dispense from. Half of the record 1960 production of ice cream (nearly a billion gallons) was packaged in rectangular linerless cartons and, of these, by far the most frequently filled size was the half-gallon. More than 774-million half-gallon containers were used last year, up 34 million over 1959 and up 255 million over 1957. Other sizes last year: 480.4-million pints, 60.9-million quarts, 19.8-million gallons.

One economic world for Western Nations is in prospect with ratification by the U.S. Senate of the treaty setting up the proposed 20-nation Organization for Economic Cooperation & Development. While the details and methods of OECD remain to be worked out, it will affect every U.S. packager doing business in Europe. OECD will embrace in one economic union the six nations of the European Common Market, the seven of the European Free Trade Assn. and, in addition, the U.S., Canada, Greece, Iceland, Ireland, Spain and Turkey. The 20 OECD countries combined have a total annual gross national product in excess of $900 billion—which is probably double that of the Communist bloc.

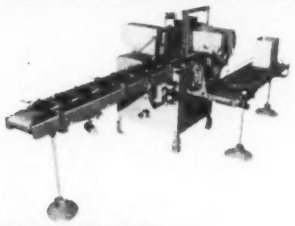
Supermarket growth overseas is catching the attention of big U.S food companies, who seek to turn their U.S. experience to European advantage. Among the packagers with European branches or connections are Corn Products, Borden, National Dairy, Campbell Soup, General Foods, H. J. Heinz and National Biscuit. Though General Foods' non-North American sales amount to only 4 to 5% of total volume, its foreign sales during the last five years have shot up three times as fast as its over-all average.

Special advantages of the foil container for convenience foods can be exploited with electronic cooking. Aluminum presents a barrier to electronic impulses, but is a highly efficient conductor of heat. Cooking rate of the package contents can be controlled, *Kaiser* points out, by the shape of a special die-cut plastic window at the top of the package. Electronic impulses are shielded from the food by the aluminum, while the thermoplastic material permits them to pass through. Transmission of heat can therefore be concentrated or limited in certain areas as desired.

You'll get the Most in economical, automatic, high-speed operation

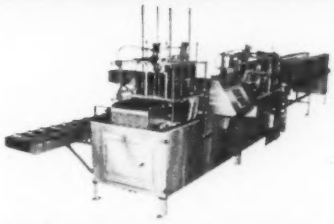
...with fmc

Can and Package Casers



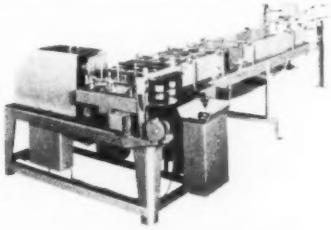
"SURE-WAY" PACKAGE CASER

Designed to convey, position, assemble and load packages into shipping cases in a continuous, high-speed automatic operation. Available in 11 different models for filling top-open, side-open and end-open shipping cases. Extremely flexible—handles a wide range of products and packages.



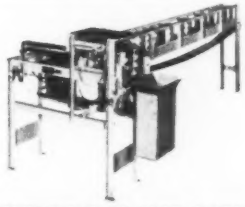
"SURE-WAY" FULLY-INTEGRATED CASING LINE

Composed of three completely synchronized automatic units: the "Sure-Way" Case Set-Up Machine, Package Caser and Case Sealer. Offers the ultimate in speed, efficiency and savings in operator manhours. Many other special accessories make this the most flexible unit in the field.



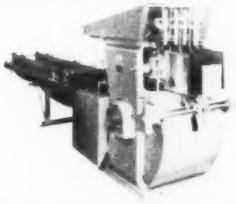
FMC NON-SHOCK END-OPEN CASER, MODEL 20

Specially designed to load single tier can patterns into economical end-open shipping cases. Permits fibre savings up to 15%. Loads up to 1200 cases an hour. Ideal for 46 oz., #10 and #12 cans.



FMC NON-SHOCK END-OPEN CASER, MODEL 10

An extremely well-constructed low priced machine, specially designed for single tier loading of cans into end-open shipping cases at relatively low or medium rates of production. Loads 10 cases a minute on #12 and #10 cans; 7 to 9 cases on 46 oz. and 307 diameter sizes. Has all the important "Non-Shock" features.



FMC NON-SHOCK TOP-OPEN CASER, MODEL 3

For continuous, high-speed lines loading single or multiple tiers into top open shipping cases. Empty case is placed over loading chute; balance of cycle is completely automatic at speeds up to 1200 cases per hour. Handles can sizes from 202 x 308 packed 6 x 8, to 603 x 700 packed 2 x 3.

FMC is one of the world's leading manufacturers of casing equipment. Illustrated here are but a few of the complete FMC lines, including the famous "Sure-Way" line of package casers and associated equipment, which is distributed exclusively by FMC. If your product is packaged in a can, box, carton, or other rigid or semi-rigid container, or if the product itself takes a rigid shape, chances are you can case it better for less with FMC precision-engineered equipment. Let your FMC representative work with you in the best solution to your specific casing problem.

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

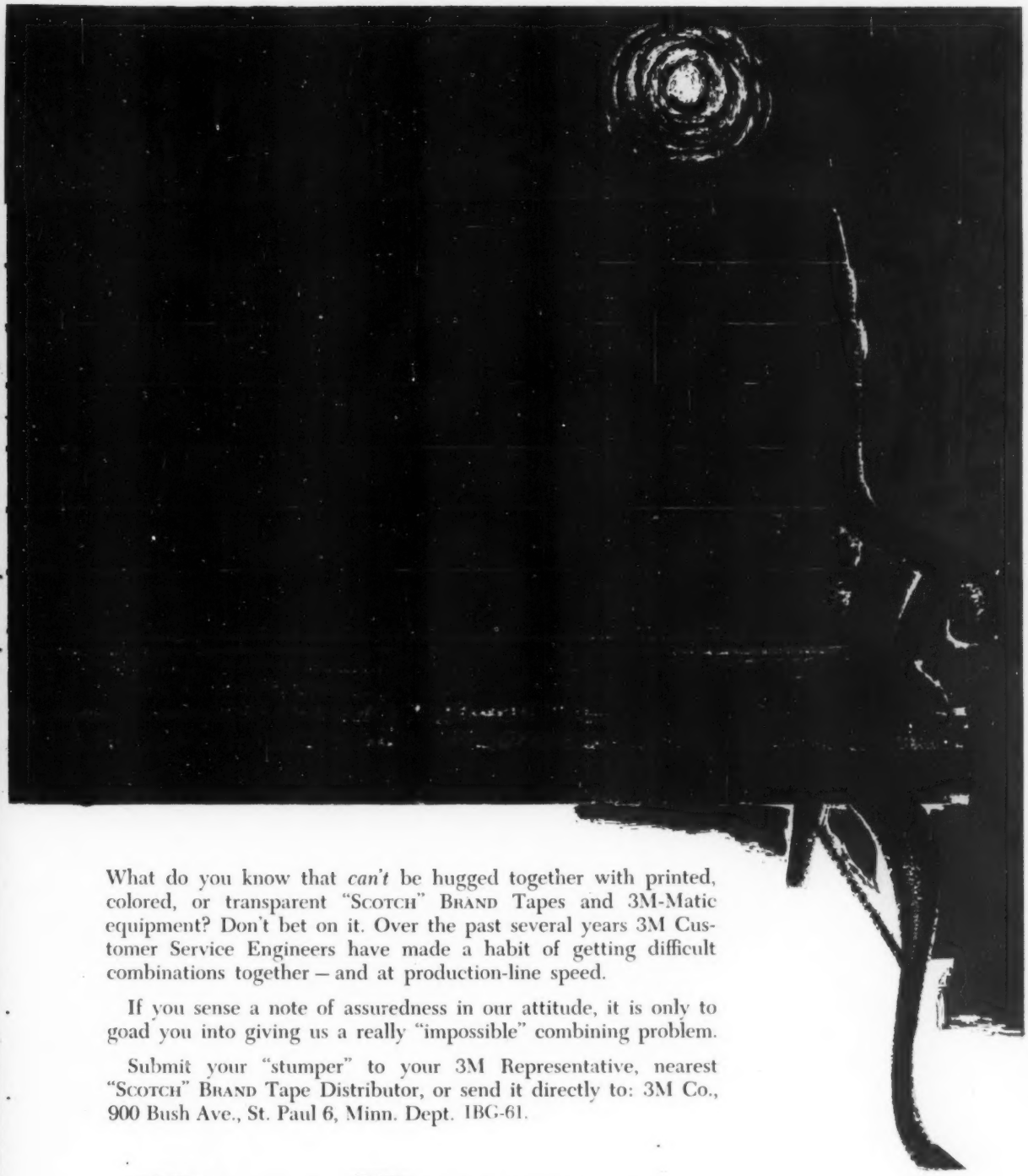
WESTERN: SAN JOSE, CALIF. • EASTERN: HOOPESTON, ILL.

For togetherness in packaging...

the "matchmaker" is a SCOTCH BRAND applicator

REG. U.S. PAT. OFF.

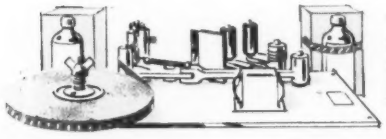
© 1961, 3M CO.; "SCOTCH" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.



What do you know that *can't* be hugged together with printed, colored, or transparent "SCOTCH" BRAND Tapes and 3M-Matic equipment? Don't bet on it. Over the past several years 3M Customer Service Engineers have made a habit of getting difficult combinations together – and at production-line speed.

If you sense a note of assuredness in our attitude, it is only to goad you into giving us a really "impossible" combining problem.

Submit your "stumper" to your 3M Representative, nearest "SCOTCH" BRAND Tape Distributor, or send it directly to: 3M Co., 900 Bush Ave., St. Paul 6, Minn. Dept. IBG-61.

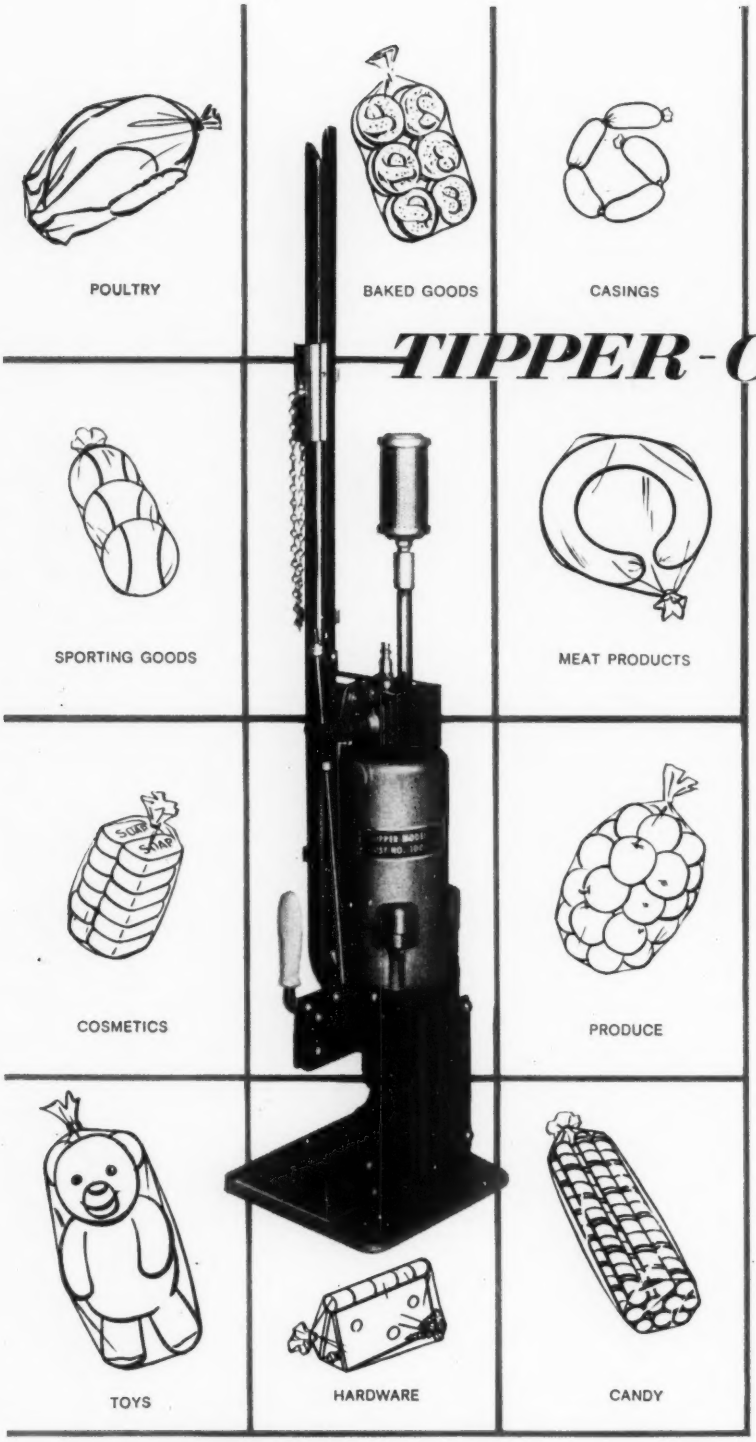


"SCOTCH" BRAND Combination Bundler Heads can be mounted singly or in pairs for all types of *togetherness* packaging at speeds up to 75 units per minute.

MINNESOTA MINING AND MANUFACTURING COMPANY

...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY



NOW... the perfect aluminum clip closure

TIPPER-CLIPPER

Model C-100

Designed for super-simple, super-safe, super-economical clip closure performance! Every type package – meat, poultry, candy, baked goods, produce, hardware, toys, novelties, sporting goods—anything in flexible wrap, bag or casing—can be closed cleanly, quickly, neatly.

The operator merely places the open end of the packaged product in the machine and pulls the lever down. Pneumatically powered Tipper-Tie C-100 gathers up the open end and puts a clean aluminum clip tightly in place . . . in an instant! Let us demonstrate—right in your plant, on your product! Get the amazing story in our illustrated folder with full details.

Tipper Tie

PRODUCTS OF NEW JERSEY, INC.
407 Chestnut Street, Union, N. J. MUrdock 7-2345

What's News in Enjay Resins...

Buton 200 resins on aluminum foil

Same foil crumpled

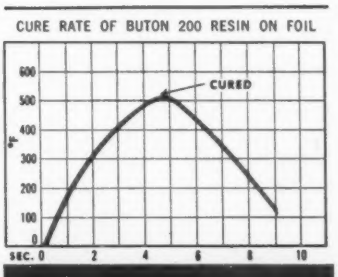
Foil straightened out after crumpling

BUTON® Resins offer excellent adhesion on aluminum

As you can see above, Buton resins provide excellent adhesion on aluminum. Tests have shown that Buton-based coatings adhere to aluminum foil even after crumpling. This adhesion, plus the high gloss and complete colorability of Buton resins, opens up many opportunities in aluminum coatings. In addition, Buton resins offer:

• *Wide cure range—air dry to high speed, high temperature cures (see chart at right)* • *Excellent chemical and water resistance* • *Good electrical properties.*

Economical—Buton resins are high in bulk and can give you more coating gallonage per resin pound. For more information, contact Enjay at 15 W. 51st St., New York 19, N.Y.



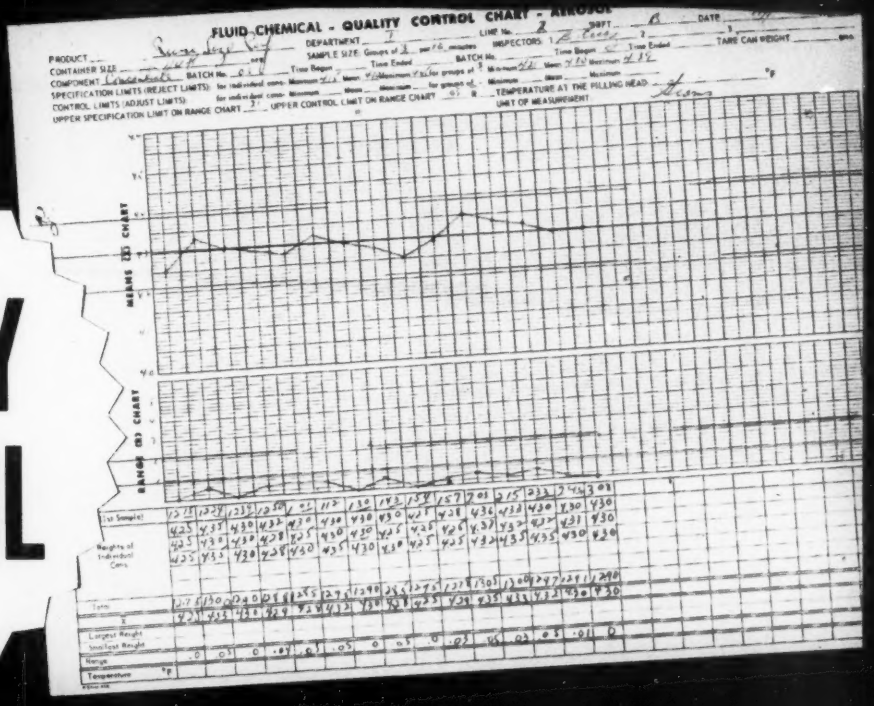
EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY

ENJAY RESINS

QUALITY CONTROL



is the essence of FLUID'S filling operations

• Quality control check point in cold-filling aerosol line in FLUID PLANT.

Uniform continuity of quality of customers' products is a prime objective of our filling service. "Let's look at the record"—for instance, the quality control record illustrated here. It shows the weights of sample aerosols removed at brief intervals from a filling line during an actual run. It is easy to see that such uniformity means real savings to the manufacturer.

In the FLUID filling plant, quality control inspectors are stationed at fixed points on filling lines. In addition, roving inspectors make frequent checks of samples taken at random.

Manufacturing chemists and contract packagers since 1921, FLUID'S long experience serving many of the world's largest manufacturers assures you of filling service that is unsurpassed. Our packaging engineers are qualified to give expert advice in selection of the best form for dispensing a given product—liquid or pressure, spray or foam. In our research laboratories we have solved the most intricate packaging problems.

Send for further information regarding our contract liquid and aerosol filling service. Write or telephone: Fluid Chemical Company, Inc., 872 Mt. Prospect Avenue, Newark, New Jersey — HUmboldt 4-1000.

Packaged by

FLUID

Chemical Company, Inc.

MANUFACTURING CHEMISTS SINCE 1921
NEWARK, NEW JERSEY

Transwrap S-750 **produces over 50 two-pound bags a minute** for Seabrook Farms

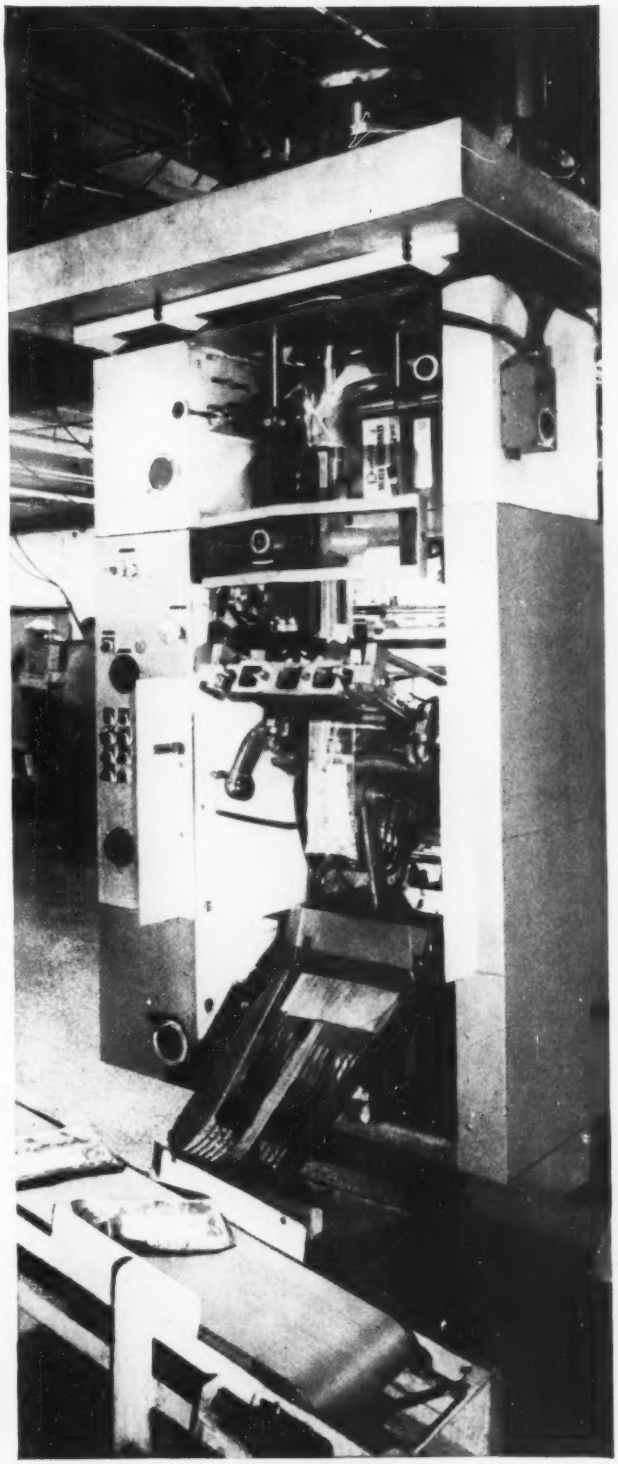
To package the well-known Snow Crop and Deerfield lines of quick frozen peas, beans, corn and mixed vegetable combinations, Seabrook Farms is using the new Package Transwrap S-750. This machine automatically forms, fills and seals at the sustained production rate of 50 bags a minute, using $2\frac{1}{2}$-mil printed, registered polyethylene from roll stock. This more than doubles previous output with other filling and sealing methods.

The Transwrap S-750 offers you these cost-cutting features that mean speed, flexibility and efficiency in any packing plant:

- Size range from 3″ to 15″ long, 2″ to $8\frac{1}{2}$″ wide.
- Up to sixty $1\frac{1}{2}$-mil poly bags a minute with a single tube, easy speed adjustment.
- Smooth, straight pull on material, even at high speeds, by spring-counterbalanced, crank-operated drawbar.
- Improved paper feed operates faster, eliminates film distortion.
- Tight, positive impulse sealing of ends and longitudinal seal.
- Rapid film and size change-overs.
- Handles a wide variety of plastic and heat-sealable films.

Operating and maintenance convenience are built into each Transwrap S-750, too. Ask your Package representative to tell you how the many cost-saving features of this machine will benefit your packaging operations.

At Bridgeton, N. J., Seabrook Farms is pouch packaging frozen vegetables in polyethylene for its $1\frac{1}{2}$-lb. Snow Crop and 2-lb. Deerfield labels on this Transwrap S-750. A second machine is scheduled to go into operation in the near future.

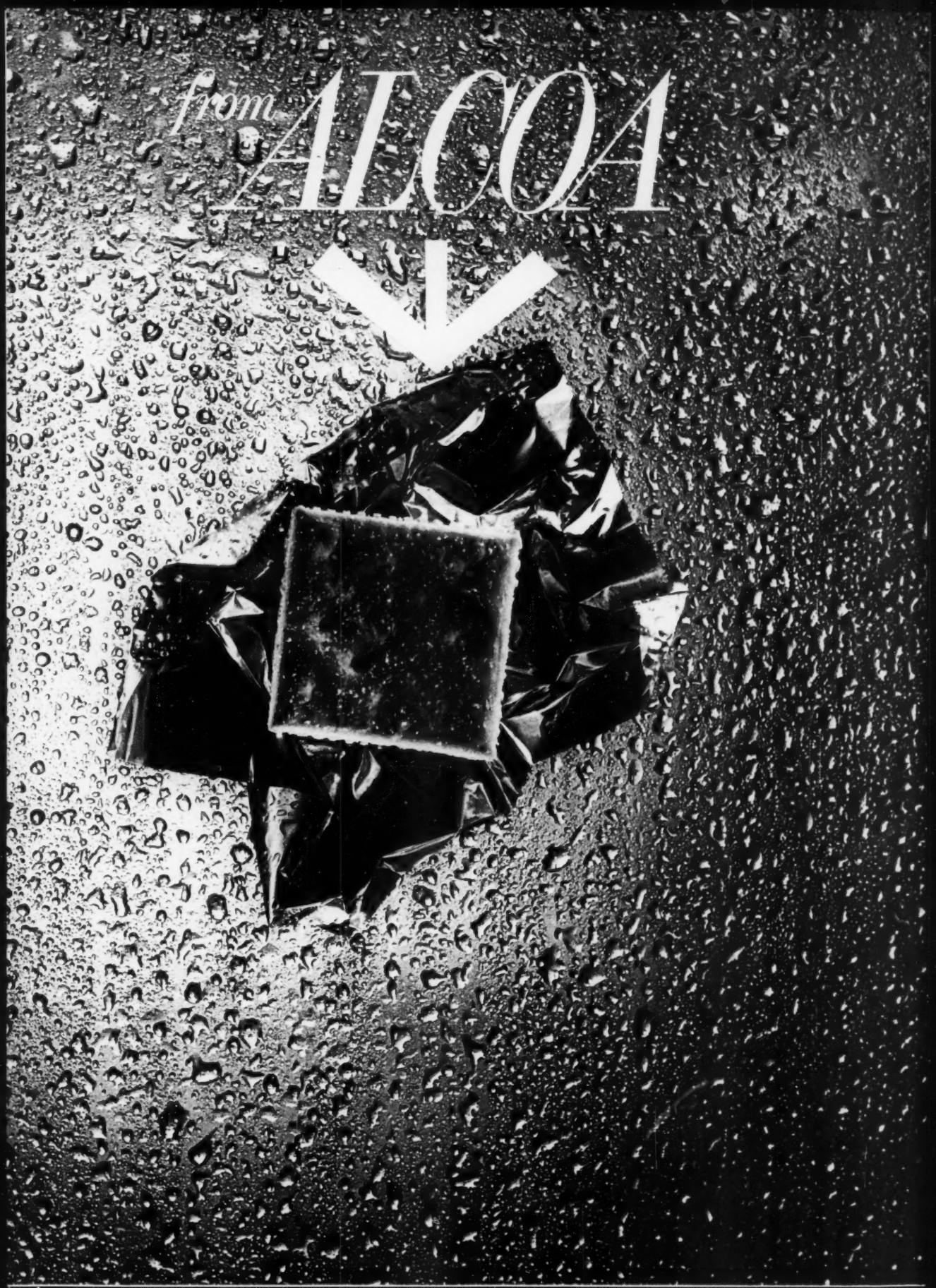


PACKAGING IS PART OF YOUR PROFIT PICTURE

PACKAGE MACHINERY COMPANY, EAST LONGMEADOW, MASS.

NEW YORK • PHILADELPHIA • ATLANTA • BOSTON • CLEVELAND • CHICAGO • KANSAS CITY
DALLAS • HOUSTON • LOS ANGELES • SAN FRANCISCO • SEATTLE • TORONTO • MEXICO CITY

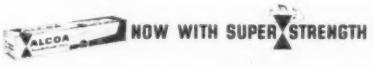
PACKAGE PMMI


from ALCOA

Sales go soft if your cracker doesn't crackle . . . and Alcoa Foil Packaging keeps the crackle in your cracker

Keeps the freeze in your frozen foods
Keeps the instant in your instant potatoes
Keeps the pop in your popcorn
Keeps the eye on your label
Keeps the aroma in your cigar
Keeps the fragrance in your soap
Keeps the customer happy . . . the product selling

Keep your eye on all the wonderful things Alcoa® Aluminum Packaging is doing for consumer and industrial products. It's making them look smarter . . . keep longer . . . sell faster. If you sell your product in a package and want to see that product move, talk to Alcoa . . . the company that will put its packaging experience . . . its research facilities . . . its process development resources . . . its merchandising and marketing knowledge to work for you. Alcoa . . . Aluminum Company of America.



ALCOA ALUMINUM

BETTER PACKAGING

EQUIPMENT & MATERIALS

Polyethylene film coated on both sides

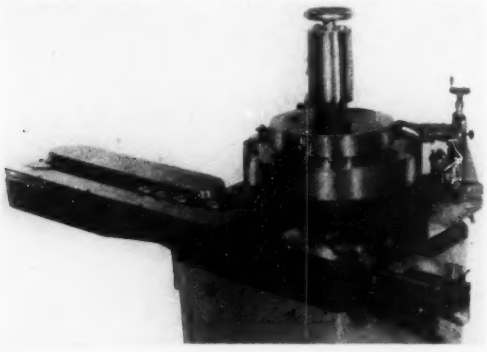
Olin reports that it has perfected a commercially feasible technique for coating polyethylene film on both sides. The resulting film is said to retain all the positive characteristics of the basic film and eliminate its major disadvantages. The new film, called PCP, has a two-side polymer coating which is said to provide improved resistance to the passage of oils, greases, gases and flavors. The coated film also has superior transparency and surface gloss, says the supplier. By the use of somewhat higher temperatures than required on most packaging equipment used for polyethylene, the company notes, coating-to-coating seal strengths equal to those for uncoated polyethylene are obtainable. Chief applications expected for the film are in the wrapping of nuts, hard and soft candy and dried fruits. The supplier's tests are said to show that such products remain salable far longer in the new film. For further data, contact *Olin Mathieson Chemical Corp., 460 Park Ave., New York 22.*

Boil-in bag—plus carton

A paperboard-and-film combination package for boil-in-bag frozen foods—consisting of a pre-assembled, "compact-shaped" protective paperboard carton with a heat-sealable polyester bag adhered to its inner surface—is available from Kapak Products, a new firm formed by Kaplan Paper Box Co. An interesting feature of the new package is that the polyester bag, which remains firmly attached to the carton during the packaging operation, releases itself from the carton when placed in the freezing room. Thus the new package, which is supplied as a one-piece unit, eliminates separate handling of carton and pouch by the packager but allows the consumer to remove the pouch easily at the point of use. The pouch, made of 2-mil polyester film supplied by Minnesota Mining & Mfg. Co., is capable of being heat sealed at 300 to 400 deg. The carton itself has convex panels and concave ends, thus comforming to the shape of the filled film bag. The thin cross-section of the carton enables fast freezing, says the supplier. The package is designed to hold 5- to 7-oz. servings and the carton has ample panel space for printing. The carton is said to protect the pouch from rough handling, flex cracks and pinholes. Information is available from the supplier. *Kapak Products Co., 130 S. Wabasha St., St. Paul.*

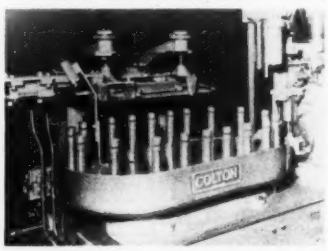
Metal-closure sealing machine

A new machine for applying aluminum or foil lids and other ductile metal closures to containers at speeds of up to 180 per minute has been introduced by PMC Industries. The machine operates on a principle whereby metal closures are applied onto glass or metal containers without the need for small spinning wheels and intricate mechanisms normally used in this operation. Consequently, the supplier claims that maintenance and replacement costs are minimized. The containers are fed onto the machine on a conveyor where they are sealed with any desired closure tightness. Closure tightness can be maintained by the use of adjustable controls. Interchangeable parts enable the machine to handle bottles of different sizes and shapes. The sealer, which requires a floor space of 27 by 54 in., is designated model RS-900 and uses nine spindles for speeds of up to 180 containers per minute. A model RS-1800, which incorporates 18 spindles for speeds as high as 300 per minute, is also available. *PMC Industries, 293 Hudson St., Hackensack, N. J.*



Converter for plastic-tube sealing

A new plastic-tube sealing and coding conversion unit that can be installed on filling machines in place of the original folding and crimping heads for metal tubes is available from Arthur Colton Co. The unit, Model 176, can be used on standard Colton tube fillers for paste and heavy liquids, thus enabling one machine to handle either metal or plastic tube-filling operations. Plastic tubes can be filled at the rate of 50 per minute with the unit, says the company. The conversion unit is adjustable for tube length and has optional pin-type ejection features. Three tubular electric heaters heat the tube ends. An air cylinder actuates jaws to accomplish tube sealing and coding after heating. The unit is said to provide a good seal on the ends of tubes without puddling the plastic material. Coated tubes can also be sealed. Details are offered by *Arthur Colton Co., 3400 E. Lafayette Ave., Detroit 7.*



Easy-handling half-gallon milk bottle

Thatcher Glass is now producing a half-gallon "family-size" milk bottle with pronounced indentations along two sides that allow the user to grip the bottle firmly and safely. The supplier claims that, with the family-size bottle becoming more and more popular, this type of milk container will become standard in the industry. The bottle, now in production at Thatcher's Saugus, Calif., Elmira, N. Y., and Streator, Ill., plants is already in use on the West Coast and national distribution is now under way. It was designed by Thatcher's Pacific Coast engineering and design group in cooperation with Ardens Farms Co. *Thatcher Glass Co., 375 Park Ave., New York 22.*

Heavy-duty single-wall baler bag

A single-wall baler bag fabricated from extensible kraft paper is now available from West Virginia Pulp & Paper. The supplier claims that, because of the added strength of the heavy-duty stretchable kraft used, the bag will outperform any single- or double-wall baler bag currently available, while reducing costs up to 10%. Known as Balex, the bag is said to meet all requirements of automatic production-line filling and closing. The open-mouth baler bag

GAYLORD
researches out the failures

You can't afford to experiment: the wrong kind of shipping container can cost you hours, customers and dollars.

So Gaylord packaging research engineers experiment for you with the complete box, liners, adhesives, interior design—the works. Every Gaylord container that you get is *proven.*

Does your product need a better container? Call your nearby Gaylord Man. Let him and Gaylord Research go to work for you now.

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GAYLORD CONTAINER DIVISION

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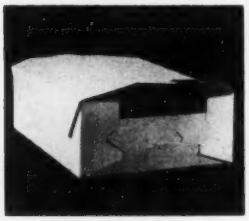
HEADQUARTERS. ST. LOUIS
PLANTS COAST TO COAST

Equipment & Materials [*Continued*]

is closed either by gluing or sewing. Additional details can be obtained by contacting *West Virginia Pulp & Paper Co., Multiwall Bag Div., 230 Park Ave., New York 17.*

Carton for bulky frozen foods

Savings of up to 7½% and maintenance of packaging-line speeds are claimed by the Western-Waxide Div. of Crown Zellerbach for its new TK-500 frozen-food carton.



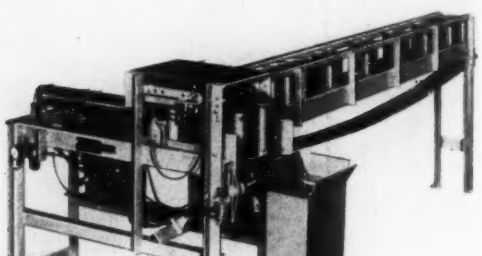
The cost saving is said to be made possible by a saving in raw material and close tolerance design which permits a reduction from the side panels without changing the capacity or product protection. Designed to accommodate such bulky frozen foods as cauliflower, Brussels sprouts and broccoli spears, the carton is available in retail and institutional sizes. The carton is also suitable for breaded shrimp, fish sticks and fillets, meat patties, corn on the cob and other items of similar bulk and size. Reportedly, production data from four West Coast plants have proved out the savings and production-speed maintenance. Only minor adjustments are required to run the carton on standard carton formers, says the supplier company. *Western-Waxide Div., Crown Zellerbach Corp., San Leandro, Calif.*

New water-soluble film

Available on a limited basis from Union Carbide's Visking Co. div. is a new water-soluble film. Known as Hylox, the film is said to offer good printability as well as good sealing qualities. It can be sealed on conventional automatic forming and filling equipment at 150 deg. F. Made from polyethylene oxide resin, the film will soften in water temperatures ranging from 35 to 175 deg. F. Reportedly, no trace of the film remains after 5 min. of immersion. Product release time is said to be excellent—the film in 2-mil thickness will release its entire contents in 8 to 10 sec., says the supplier. The film is claimed to have good shelf life and reportedly will not crack at temperatures of minus 70 deg. F. It is available at present in thicknesses from 1½ to 10 mils on rolls in widths up to 20 in. Additional information can be obtained from *Visking Co., div. Union Carbide, 6733 W. 65 St., Chicago 38.*

Mechanical casing of gallon paint cans

Continuous, semi-automatic casing of 1-gal. paint cans is now possible with the modified FMC Model 10 non-shock, end-open caser. Heretofore, the supplier notes, these



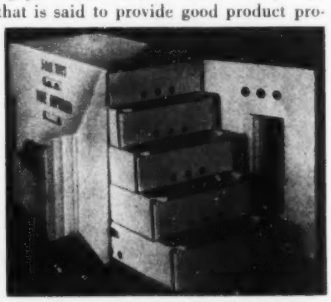
cans required hand casing in order to properly position bail ears. Only one attendant is required to set up and place the shipping cases over the loading tube at reported speeds of 10 cases of four cans each a minute. The caser employs positioning devices designed to insure proper orientation and nesting of the cans as they enter the end-open shipping case. Damage to ears, cans and labels is thus said to be eliminated. The machine's loading cycle cannot begin until the loading chamber has its full complement of cans and until an empty shipping case is positioned over the loading funnel. An automatic arm steadies the shipping case during the loading operation and then lowers it onto a conveyor belt that carries it to the sealer. By employing a return conveyor system from the sealer, one man can feed the caser with 10 cases per minute and stack the cases on a pallet. *Food Machinery & Chemical Corp., Canning Machinery Div., San José 8, Calif.*

Foil cups for candy and dairy products

Ekco-Alcoa is introducing a new line of "table-ready" foil cup-type containers for use by the dairy and confectionery industries. The containers are available with a variety of closing methods, including board or transparent plastic. The transparent plastic closures incorporate a snap-on feature for reclosure convenience. They can be decorated in solid colors or patterns. Patterns can be decorative only or can incorporate a trademark or logotype. Sizes range from 6 to 16 oz. and capacities can be varied within this range by bowing the container, which also gives it an interesting shape. *Ekco-Alcoa Containers Inc., Wheeling, Ill.*

New paper packaging products

Owens-Illinois' Paper Products Div. has introduced three new paper packaging products. Pictured is a five-tray fruit and vegetable box that is said to provide good product protection for delicate products, along with excellent ventilation and a good surface for printing a merchandising message. The box makes one unit out of five and, since handling costs in metropolitan areas are often based on unit cost, should result in substantial savings in drayage, says the company.



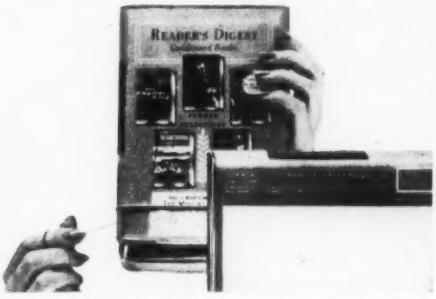
The trays and master wrap reportedly have excellent stacking strength. The supplier notes that, although designed for delicate produce, the tray box should have a variety of industrial and consumer uses. O-I has also made available a metal-end freezer box of corrugated tubing. Known as "Sharpak," the deep-freeze unit is warehoused flat. Steps in assembly include crimping the metal bottom to the tube, insertion of a plastic bag, filling with the product, sealing the bag and clamping the metal top in place. Metal ends are applied quickly by a special crimping machine, the supplier notes. The metal ends facilitate quick freezing and the corrugated tube can be imprinted with product identity and sales message. When stacked, the units nest for efficient storage and shipping. Also new is an all-paper asphalt container which is said to be lower in cost than competitive containers. The Asphalt Pak, as it is called, consists of a solid fibre tube and a circular kraft bottom. The container is shipped flat for set-up by the customer. To make the container ready for filling, the bottom is taped to the tube automatically. Hot, liquid asphalt is then poured into the leakproof shipper. After product hardening, the filled packs can be stacked and shipped. A special release coating permits easy separation of the tube from the asphalt at the point of use. *Owens-Illinois Glass Co., Paper Products Division, P. O. Box 1035-6, Toledo 1, O.*

Polystyrene multipacking clip

Designed for use by packagers of canned beverages are an unusual, low-cost polystyrene multipacking device and machinery for applying it at reported speeds of up to 600

Harcord packs a purpose

ATTRACTIVE OVAL PACKAGE is easy to shake . . . easy to fill. Pouring spout snaps in *after* filling . . . with no special equipment, and no seaming required. Unique gripping edge on metal cap makes for easy opening even with wet hands.



FULL STRENGTH STRING OPENER* . . . The outer plies of board in this unique canister, which can be made in round, square or oblong shapes, are not cut or scored during manufacture. This provides full-strength, fully sealed protection until customer pulls string opening device to cut through package.

HARCORD DUST GUNS shoot to kill! Sealed, tamper-proof packages work with easy, action-perfect sliding motion . . . effectively direct spray up or down. HARCORD packages like this give customer satisfaction at a cost of pennies.

TWO-WAY PACKAGE that's up on top is Permatex Cooling System Cleaner and Conditioner. A functional, partitioned HARCORD canister which opens on both ends, holds both products . . . provides long-lasting shelf life at reasonable cost.

you sell it better, you say it best in Paper Canisters by

HARCORD

HARCORD MANUFACTURING CO., INC.
125 Monitor St., Dept. MP-6, Jersey City 4, N. J.
New York Telephone: BArclay 7-5685

* Reg. U.S. Pat. Office

Equipment & Materials [*Continued*]

cans per minute. Both are available from Tay-Pak Corp. of San Francisco. Called Phantom-Pack, the multipacking device—which permits full visibility of the cans—is molded of a specially formulated polystyrene which is reported to provide a balance of stiffness and impact strength. Six molded-in flanges on the rectangular, flat multipack clip (three on each side) grip the chimes of the can tops and hold them securely in six-pack fashion. Two molded-in finger holes enable the filled multipack to be carried easily. According to the supplier, the multipack plastic clip weighs one-third as much as a conventional paperboard carrier for 12-oz. cans and offers a 42% savings in storage space. The plastic clip is also said to be 33% lower in initial cost. Machinery for applying the unusual multipacking device is said to align the cans in an outward-facing position, which enables the packager to utilize the full merchandising impact of can lithography. The cans are fed into the unit (Model B-300, for 300-per-minute speeds; Model B-600, for 600-per-minute speeds) in double lines. The clip is automatically snapped into position as six-can groups travel through. Details are available from the sales representative, *Brunsing & Sons, 260 California St., San Francisco.*

Metalized glassine

Nicolet Paper Corp., a subsidiary of Milprint, reports that it has perfected a vacuum-coating process for the manufacture of aluminum-coated glassine in continuous mill-roll lengths. The metalized glassine is reported to be strong,

greaseproof and odor resistant. In addition, the reflecting surface of aluminum increases the glassine's protective value as a light barrier. It has been successfully printed using both flexographic and rotogravure processes. The material is suggested for use in applications where 0.00035 foil-tissue or foil-sulphite laminations are presently being used. The glassine is coated on one side only with a layer of aluminum approximately 3½ millionths of an inch deep. The supplier recommends use of the material for wrapping of ice-cream and candy bars, labels, potato-chip bags, decorative box liners for cookies and confections, and other applications in the bakery, dry-food and meat industries. The vacuum-coating equipment used by Nicolet was designed and built by F. J. Stokes Corp. of Philadelphia. *Milprint, Inc., 4200 N. Holton St., Milwaukee 1.*

Polyethylene packaging for large items

A wrapping machine for one-step packaging of extra-large items in polyethylene is now available from Mehl Mfg. Co. and Kordite. An addition to Mehl's "See-Safe" line, the special-size model MA provides packaging for products up to 36 by 48 by 10 in. The machine seals bulky products of up to 18 lbs. The supplier recommends the unit for wrapping such items as golf bags, bolts of fabric, pillows, throw rugs, card tables, etc. It is said to reduce users' labor, handling and materials costs. *Mehl Mfg. Co., 2057 Reading Rd., Cincinnati 2, and Kordite Co., Macedon, N. Y.*

Imprinter for cartoning machines

A cartoning-machine attachment that imprints control numbers, codes, prices, varieties and other data on the bodies or flaps of folding cartons is now being marketed by Gottscho.

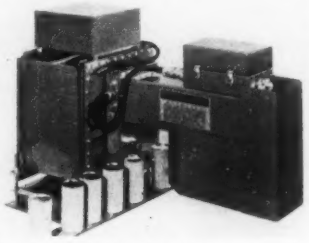
The attachment is said to be designed specifically for use on all standard makes of automatic cartoners and is available in two basic styles. The Model 1270 applies the imprint from above and the Model 1280 applies it from below. Both styles are automatic and are said not to interfere with pushers or other parts of the cartoning machines. Full annular registration simplifies the precise placement of imprints in any desired location and interchangeable die wheels facilitate change-over from one imprint legend to another, the supplier says. Use of fast-drying fluid ink and a specially designed metering system are said to afford uniformly good impressions. The imprinters are supplied with mountings. *Adolph Gottscho, Inc., Hillside 5, N. J.*

Food-grade polypropylenes

Three new polypropylenes, two of them reported to meet F&DA regulations for food and drug applications, have been introduced by AviSun. The new food-grade polymers are 4011 (for extrusion applications) and 4014 (for injection-molding uses). The supplier suggests application for extruded squeeze-tube packages, injection-molded containers for dairy products and hard foods, vacuum-formed containers for disposable blister packages, boil-in-bag pouches and blow-molded containers for baby food. The supplier's grade 1016, a high-flow injection-molding polymer, is said to be especially designed for high-speed multiple-cavity situations, where close shrinkage and warpage control of the molded part are desired. Technical data sheets and information on the new grades are available from *AviSun Corp., 1345 Chestnut St., Philadelphia 7.*

Fast fill-height inspector

A new X-Ray fill-height inspector for use with many types of containers and products, with reported speeds of up to 1,000 containers per minute, has been introduced by the X-Ray Dept. of General Electric. The inspector also features a 5,000-hr. tube warranty. Said to be responsible for the increased inspection speed and tube life is a new ion chamber radiation-detection system that is claimed to be more sensitive than crystal detectors and therefore to require less radiation. A hermetically sealed metal chamber reduces electrical-current requirements and an adjustable lead aperture in the tube head optimizes radiation-beam accuracy. Known as the Hytafill 1000, the new unit is designed to monitor fill height of most liquids and free-flowing solids—including foods, juice, milk, beer, soft drinks, detergents, cleansers, perfumes, pharmaceuticals and petroleum products—in metal cans (including aluminum), plastic containers and many types of glass containers. The inspector detects underfill or overfill within an accuracy range of plus or minus 1/64 in. and can actuate a



[Continued on page 190]

Sales-Starting Packages by Chase

Industrial or consumer products . . . Chase knows how to give them a head start in sales with the *right* package, thanks to a wealth of skills, experience and facilities. Quality is built into every Chase bag, too—it reflects the skill and care of outstanding workmanship. How to choose the right package? There's a Chase packaging specialist ready to help you with the decision—and you pay nothing extra for this extra advice. Whether you need paper, mesh, textile or plastic bags you can be certain that for top value at minimum cost, Chase has the answer. Chase packaging is printed on modern, multi-color presses by the industry's master "kraftsmen." For information about any Chase bag—for shirts or for sugar—call the Chase Man nearest you. Or write us.

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MULTIWALLS • TEXTILE • MESH • PLASTIC & LAMINATED BAGS • CONSUMER-SIZE PAPER BAGS • OTHER PACKAGING MATERIALS

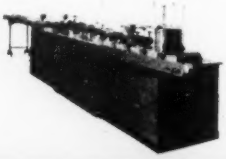
SEALED CARTON
PRESERVES FRESHNESS

Krug's cuts cost 40% ...doubles packaging production with

end loading CECO® cartoners

PACKAGING PRODUCTION DOUBLED—Krug's, one of New York's leading bakeries, reports that they have increased their packaging production by 100% while at the same time reducing their labor costs by 40%. For example, as shown in the photos above, with one girl loading and another unloading, they package 32 delicate cakes a minute. With a changeover that takes but a few minutes to make, the same loading operator could load 70 pies a minute. That's production!

30% CARTON SAVINGS—Along with the increase in production, the switch to end-loading CECO Model 40 Cartoners has enabled Krug's to use folding cartons at a saving of 30% in carton costs, and additional savings in warehousing costs. These savings alone pay for the CECO Cartoners in a short time.



EXTRA VALUE TOO—This change to folding cartons has given Krug's products an extra plus too, because unlike old-style two-piece cartons, their one-piece cartons are sealed—sealing in the freshness that the consumer appreciates.

The list of bakeries using the CECO Model 40 Cartoner is long, including Wagner, Drake, Fischer, Dugan, Blue Bird, Bradley Pie, Table Talk, Horn & Hardart, and many others. Find out how you can slash production costs. Write for brochure today.

CONTAINER EQUIPMENT CORPORATION

MEMBER, PACKAGING MACHINERY MANUFACTURERS INSTITUTE

78-88 LOCUST AVENUE, BLOOMFIELD, N. J.

MASTERPIECES IN METAL CONTAINERS

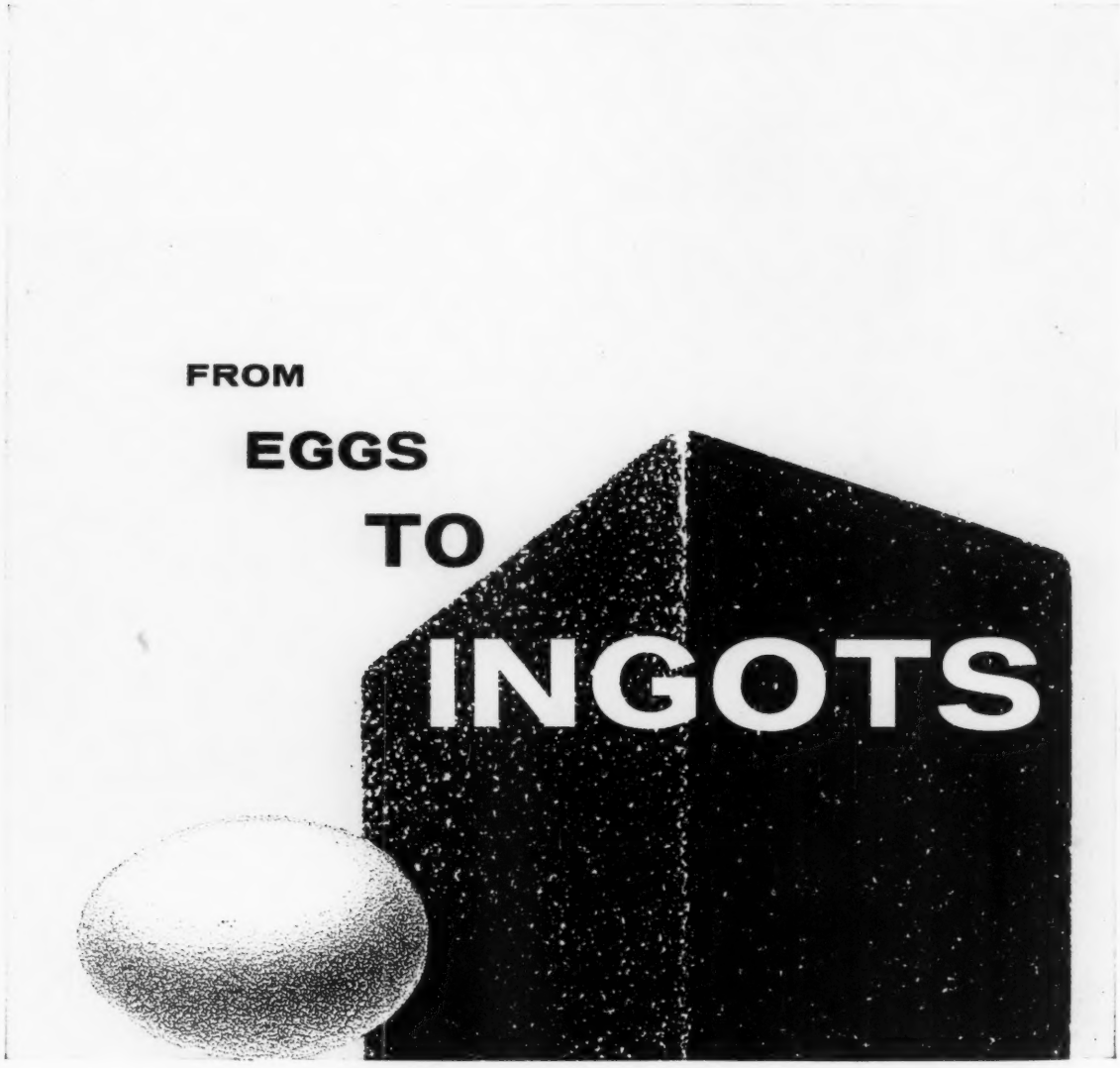
German pewter cosmetic container of Empire period (circa 1830)—courtesy of The Art Institute of Chicago

new from Clark

Lithographed metal, combined with molded plastic, produced this attractive container with a revolving sifter cap. Offering advantages for talcum powder and related products, the can, with its snug-fitting, smooth-turning closure, is a new development by Clark.

Ever since the Bronze Age, man has recognized the superiority of *metal* as a packaging material unmatched for its strength, beauty, and versatility. Through countless centuries, metal craftsmen have become ever more skillful and imaginative, striving always to perfect container design. Today J. L. Clark produces exceptionally fine lithographed metal containers for many of the country's leading brand names—among them the "best sellers" in the cosmetics and toiletries field, shown here. Whether your products are cosmetics or fall into innumerable other fields, we suggest that you come to Clark . . . where your packaging needs will be served effectively and economically. . . . . **J. L. CLARK**

ROCKFORD, ILLINOIS



If it has a surface, IME can help you make your mark

An egg. An ingot. Could any two marking surfaces be more different? Yet both, and thousands of surfaces in between are run-of-the-mill jobs with an IME imprinter.

The reason is simple: **IME doesn't make a standard model.** Each one is a custom job, tailored to **all** the customer's needs and his needs only. IME specialists sit down with you, discuss your operation, help you determine your requirements, then design the one method and machine that best meets them. Bags, boxes, cartons, cans . . . eggs, ingots, tablets, toys . . . you can imprint any surface . . . code, date or price any product with an IME-tailored machine. There's no better way to make your mark . . . boldly, clearly, quickly.

IME offers you a complete package: everything from self-contained marking systems to the precise inks that system needs. Write today for informative brochure. Dept. MP

Custom-designed marking equipment at standard cost

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Manufacturers of: "Whippet"® conveyor line marking device • #7 Auto-Printer® for knocked-down cartons and multi-wall bags • Rainbow coder®-imprinter attachment for marking flexible wraps • Flexopress – for instant drying printing on almost any surface, sheet or web.

Announcing one of the most significant developments in the history of packaging . . .

After extensive research and testing, R-C Can Company proudly introduces a revolutionary juice concentrate can made from laminated aluminum foil and fiberboard—an achievement that has far-reaching significance for the packaging industry. Credit for creating this remarkable container is shared by the research, engineering, and production staffs of R-C Can Company and Anaconda Aluminum Company. Both companies worked independently and jointly on countless technical problems before the new can could be placed on the market. Today, these problems are solved—and a completely new packaging idea is ready to serve you!

In both performance and economy, this container provides decided advantages, not only for juice concentrates, but for hundreds of other products as well. The R-C *FOIL-KAN* is certain to get immediate and widespread acceptance by progressive packagers everywhere.

The laminated foil/fiber can is here TODAY . . . and it's here to stay!

More economical!
Saves up to 20% on container costs

Lighter weight!
Saves 5-10% on shipping charges

Better appearance!
Proved consumer preference means increased sales

Easily opened!
Opens with any standard can opener—no cut fingers

Experience R-C gained in developing the easy-opening refrigerated dough can for the Pillsbury Company has helped make production of the *FOIL-KAN* possible.

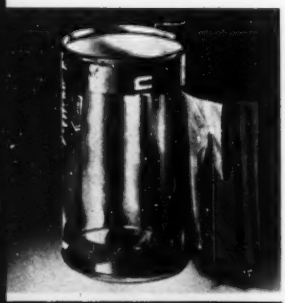
RC CAN COMPANY
9430 PAGE AVE.
ST. LOUIS 32, MO.

*Trademark and Patents applied for.

In looks...in economy...in performance... in consumer preference...

THE R-C *FOIL-KAN** HAS PROVED ITS SUPERIORITY

By marketing your product in the R-C *FOIL-KAN*, you make a savings of up to 20% on *container costs. Transportation charges* are lower—because of lighter container weight. At the retail level, your product stands out in the merchandising case, gets enthusiastic *consumer acceptance.* Product quality is preserved by *better insulation.* Damage losses are substantially lowered because this can has good resistance to dents and punctures.



How the R-C FOIL-KAN is made

The new R-C *FOIL-KAN* has a multi-ply construction: a body consisting of two layers of fiber, an inner liner of kraft-backed aluminum foil, and an outer layer of kraft-backed aluminum foil, which, when printed in attractive colors by the rotogravure process, also serves as a label. These materials are spirally wound with overlapping at seams, reinforcing the container. This construction has proved its capability under the most demanding circumstances, both in the test laboratory and in actual use.

R-C FOIL-KAN advantages proved by market testing

After exhaustive testing in the R-C and Anaconda laboratories, the R-C *FOIL-KAN* was tested by H. P. Hood & Sons, Inc. for their Southern Sun frozen orange juice concentrate. Subsequently, large scale market testing took place in the Houston, Texas area. This test proved conclusively that the R-C *FOIL-KAN* is a significantly better container for orange juice. First, shipping costs were about 5% under what they would have been for metal containers. There was no problem with spoilage or can damage. The store audit showed a very substantial increase in Southern Sun sales in Houston during the test period. Southern Sun concentrated orange juice is now being packed in the R-C *FOIL-KAN.*

Write, wire or phone at once for technical information

If you pack juice concentrates or any other dry or liquid product that presents a packaging challenge it would be worthwhile to talk to R-C Can Company about using the *FOIL-KAN* in your application. Ask the R-C Technical Services Department for assistance with any idea you might have no matter how unusual or how complex. Samples sent on request.

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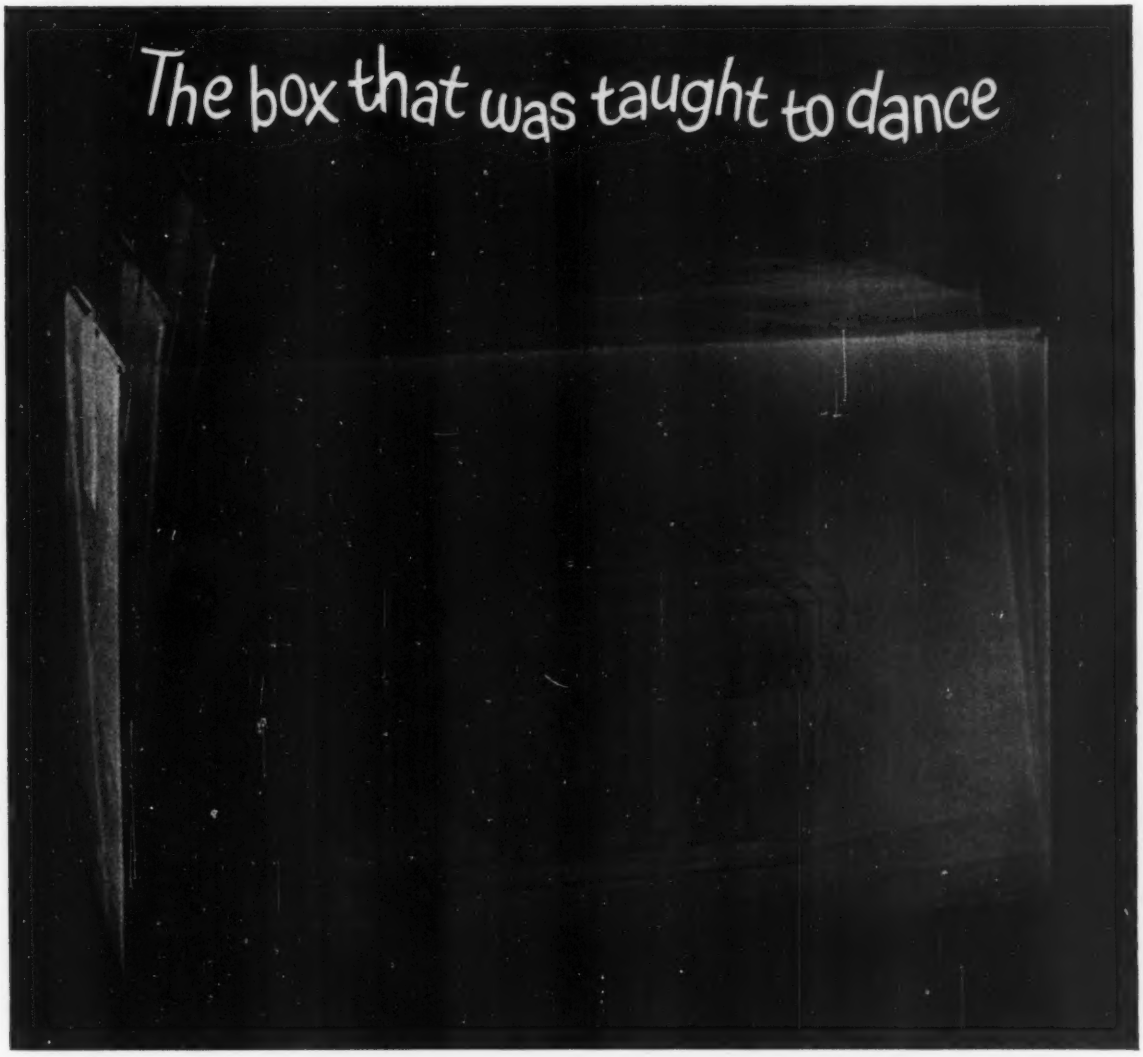
6107

The box that was taught to dance



MILLS:
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Rome, Georgia

BOX PLANTS:
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Everyone knows that a truck or freight car does more rockin' and rollin' than a 'teen-ager.

So at Inland, we test our boxes on a vibrator. It makes a box dance as though it were riding in a box car with eight flat wheels.

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The story behind the dancing box assures "happy landings" for products packaged in Inland containers because Inland engineering and testing leaves no room for guess work.

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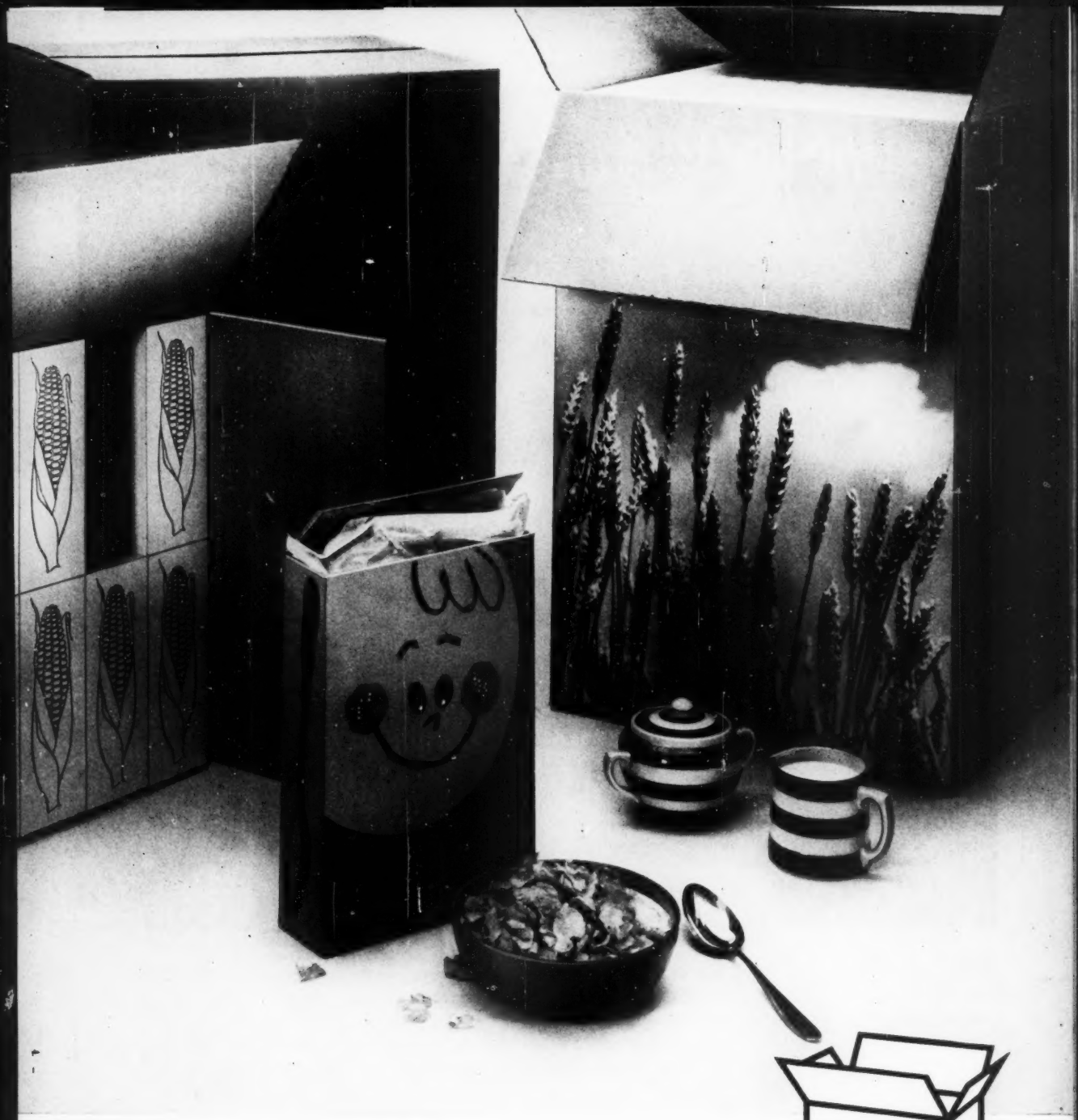
Corrugated Fiber Containers

General Offices, Indianapolis, Indiana

Partners in Progress with American Industry



Millions of breakfasts in corrugated

America's big morning appetite is a bull market for breakfast food. Producers supply this demand with a harvest of crispness, a multitude of different cereal brands. Why are so many of these family favorites shipped in boxes by Hinde & Dauch Division? Because buyers know they can depend on Hinde & Dauch for money-saving *corrugated containers in volume.*

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Sounding BOARD

WE ASK THE READERS

In what ways can a packager be helpful to his supplier in the development of new packaging machinery?

John M. Kohr
Director of Engineering
Gorton's of Gloucester, Inc.
Gloucester, Mass.

A packager can and must assist his supplier in the development of new packaging machinery.

First, the packager must work with the supplier in special design features for his specific product and his particular requirements in regard to plant layout, construction materials, special cartons, etc. From this mutual understanding, the equipment can be designed with a better-than-average chance it will work.

Secondly, cooperation is required during the construction of the equipment and the shop trials. Shop trials with large amounts of product are nearly impossible, so it must be remembered that minor faults during short trials are tremendously important and must be evaluated strongly toward the negative. It is much cheaper to make changes in the shop than in the customer's production line. Near perfection is very important before the machine is moved from the shop.

Thirdly, the single most important phase is the installation and "debugging" in the production line. A perfectly operating machine has to be wanted and worked with diligently through this stage, or failure may be almost certain. The packager's engineer and the supplier's engineer, each with enough authority to make changes, adjustments, etc., must work amicably together to solve the unforeseen problems and to train maintenance, machine and production operators in the care, operation and feeding of the machine. This stage requires real work on the part of everyone, with some discouragements encountered to break up the monotony of success.

Fourthly, if some of these elements are missing along the line, the successful conclusion will be delayed and it will be necessary to go back and fill in the empty spaces. When this happens, tempers become short and much more time is wasted in placing blame from one side to the other. Many good machines are finally relegated to the back room and then to the scrap pile because of a lack in the tolerance, understanding and cooperation among all those involved.

And fifthly, a supplier should never become involved in producing equipment for someone who does not enthusiastically want it. A partially interested, or the "prove-it-to-me" type of buyer can never give the required cooperation and understanding necessary for carrying through a successful program.

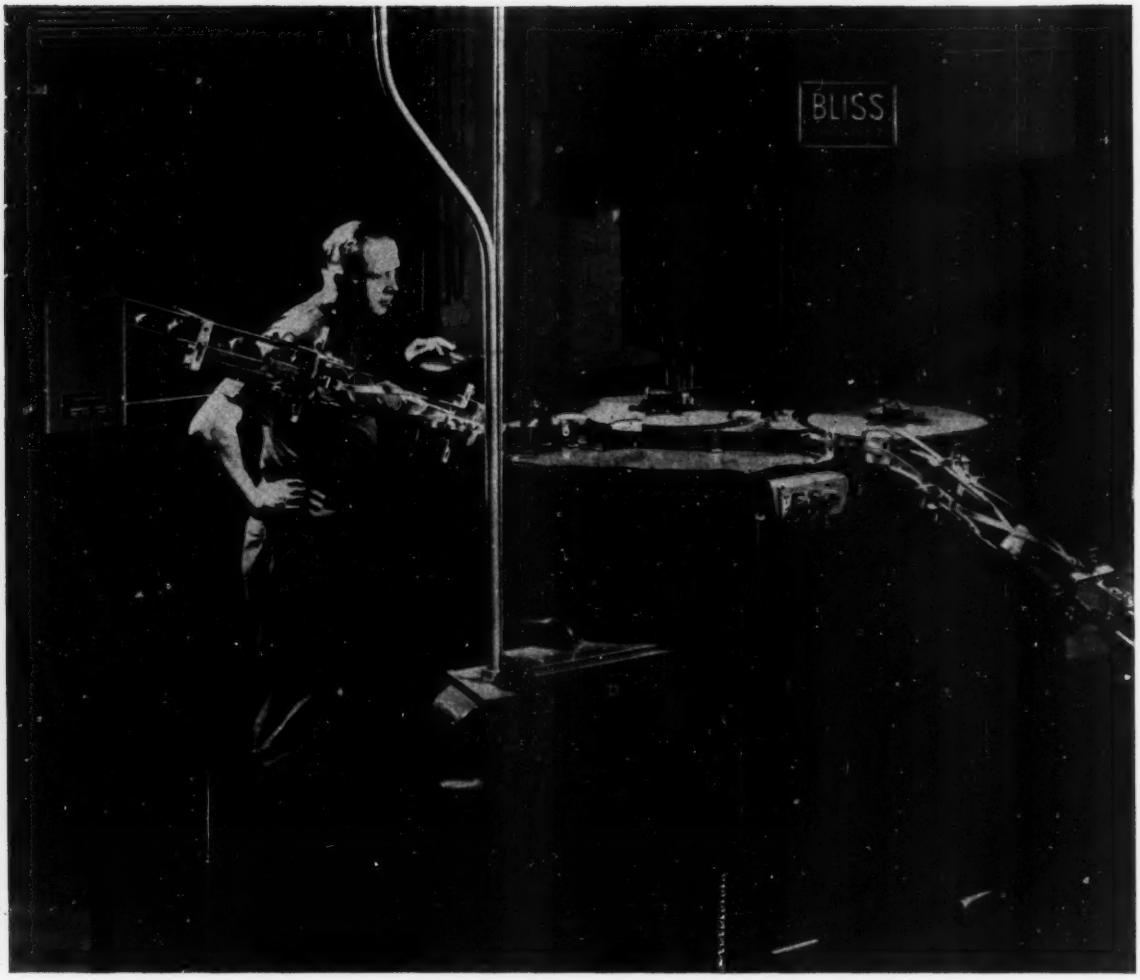
Herman Manas, *President, MRM Co., Inc., Brooklyn:* The development of new packaging machinery, particularly when either product or container represents a marked departure from previously used materials, requires that the packager present a complete picture to the machinery manufacturer. This includes every operational phase with which the new package is concerned—full details about package design, package material, production facilities and requirements and, in the case of new products, full technical and laboratory test reports on the product; also, type and equipment with which the new machine will work.

No detail is too unimportant, no fact too insignificant to consider in development of new packaging machinery. Length of shelf life and marketing areas are, for example, seemingly unrelated factors that may influence machinery development. In short, the more the supplier knows about the product and the package, the easier it will be in developing new machinery.

E. N. Burnett
Chief Engineer
Gerber Products Co.
Fremont, Mich.

I believe I can best illustrate how by giving you a brief case history based on our own experience.

Ten to 15 years ago, because the baby-food industry was a specialized industry and the potential for sale of equipment seemed to be relatively small, it was often necessary for us to purchase standard equipment and completely rebuild it to make it perform to our satisfaction. About six or [*Continued on page 229*]



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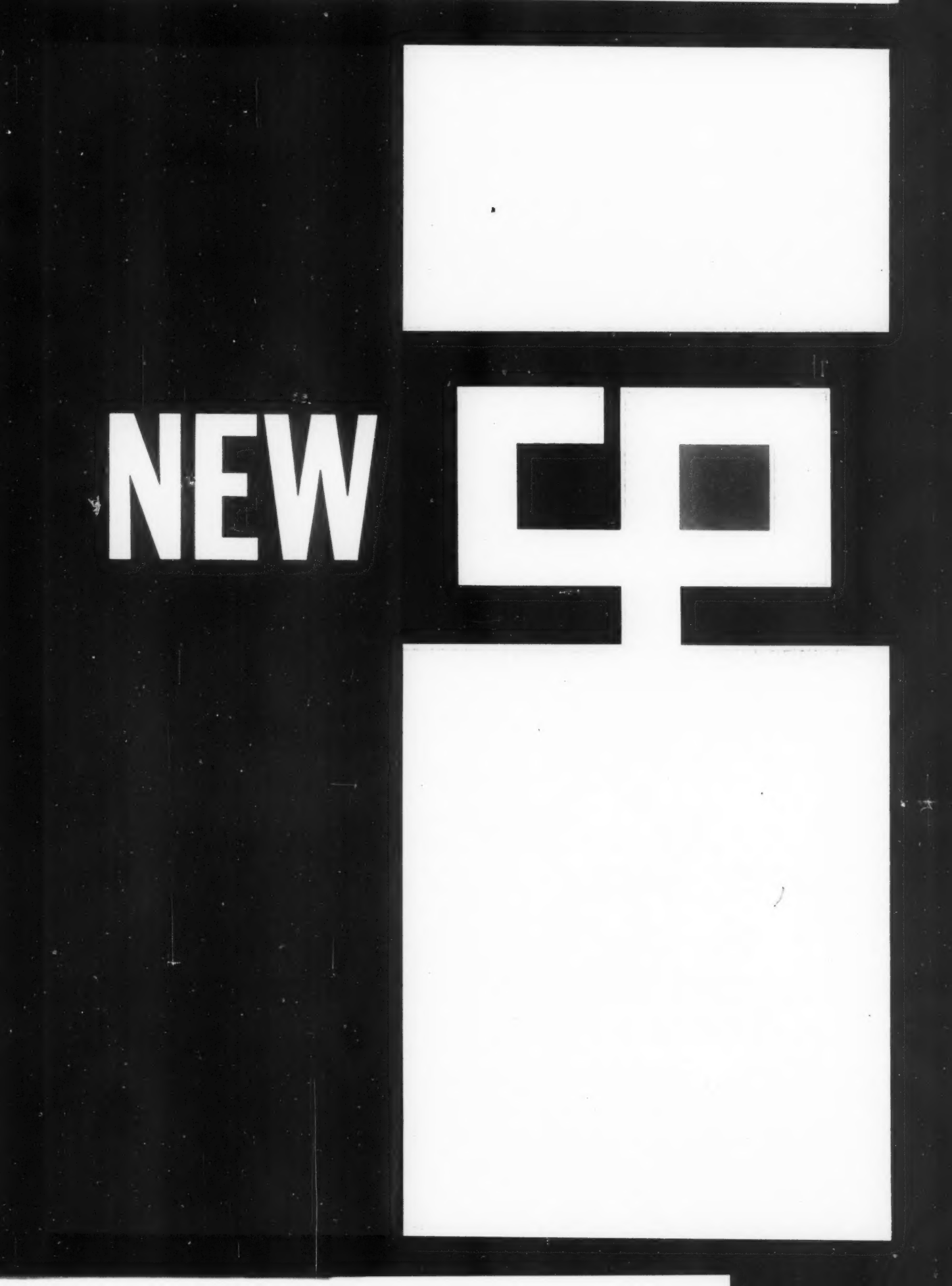
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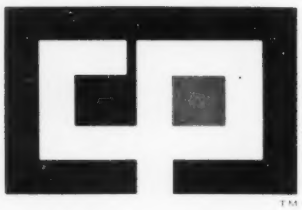

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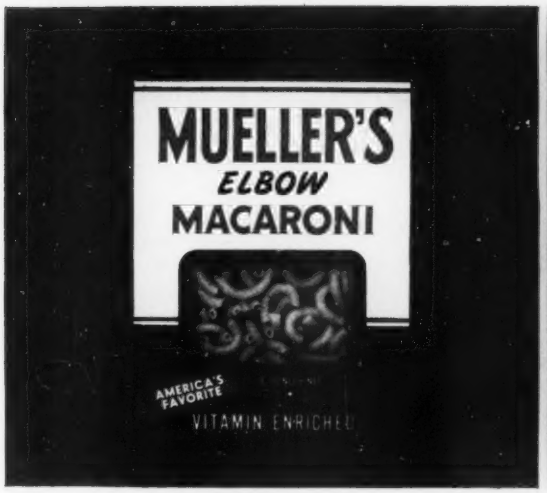


THEY PUT IT IN A PACKAGE

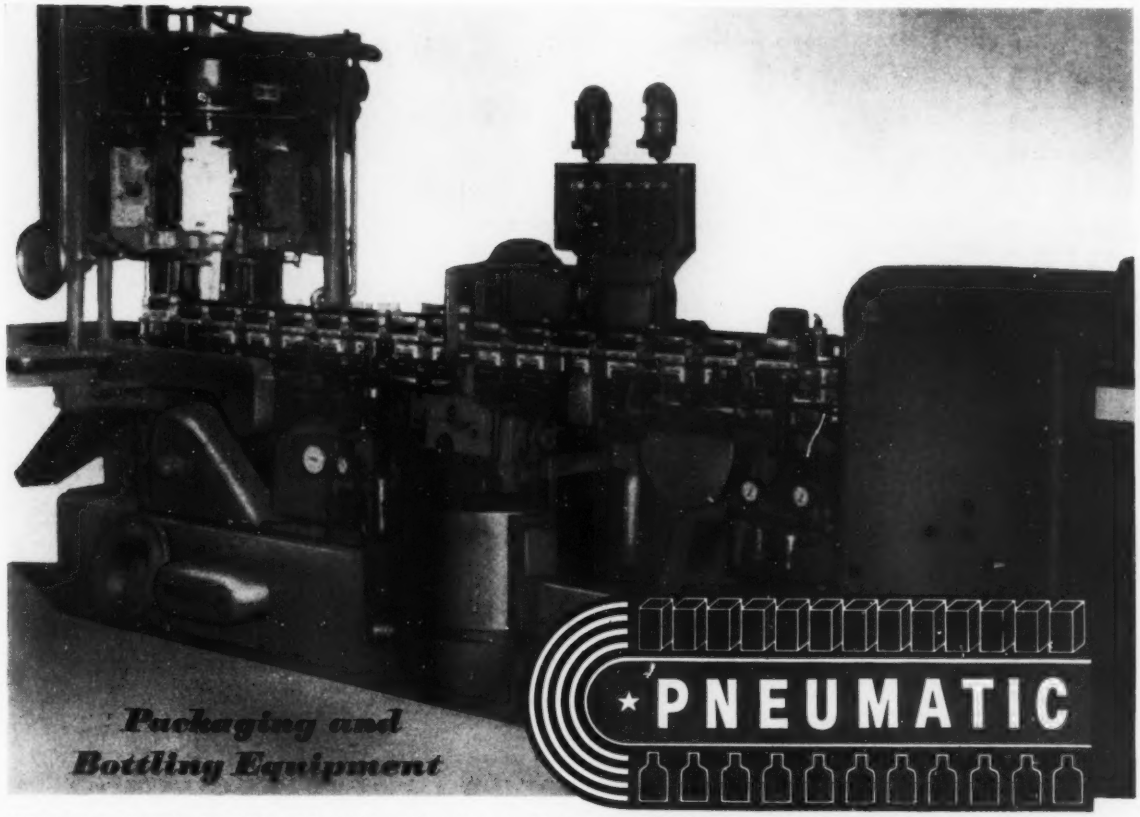
AND CALLED IT

MUELLER'S MACARONI

That was fifty-seven years ago. Mueller's has been a leader ever since. And one good reason for the prominence of Mueller's Macaroni brand has been the skill and efficiency that has always characterized Mueller's methods of protecting its product with a well designed package.

In 1949 Mueller introduced its windowed cartons and installed Pneumatic coordinated equipment to form, fill and seal its packages — automatically. Today, in addition, it operates a Velocitron combination (see below). This single machine handles all of these operations at highest speeds and "lower cost per container" — the closest thing to packaging automation available today.

If you are interested in the latest automatic packaging or bottling techniques, Pneumatic can offer you more — in equipment, experience and service — than any other company you could consult.



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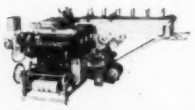
WRAPPING MACHINES

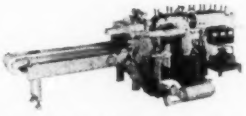
9

ONE OF THESE

Battle Creek model 475's will soft film overwrap your thin, rectangular or irregularly shaped products at high speed



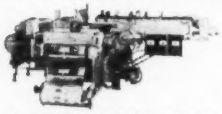
Model for 475 General Rectangular Applications



Model 475-H for Soft Irregular Products

Model 475-SN for Square Soft Items

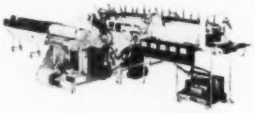
Model 475-S for Thin or Thick Items



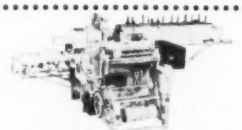
Model 475-TS for Soft Rounded Shapes

Model 475-TT for Irregular Products

Model 475-N for Paper Napkin Overwrapping



Model 475-T for Textile Products



Model 475 for Rectangular Trays or Cartons

products like these can be beautifully packaged at speeds up to 75 per minute

These newly developed machines have been thoroughly field tested in more than 100 installations. All machines create attractive, weld-sealed packages in polyethylene and most of the currently available plastic films besides being adaptable to films of the future. Our engineering service will help you choose from nine different Model 475's the machine best suited to your particular packaging needs. Send your inquiry in today.

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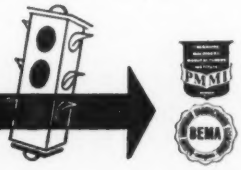

WORLD REPORT

*Digest of foreign packaging developments**

England

Points to remember for export

The problems in packaging that will arise in a market of 200-million people through the development of a European Free Trade Area are discussed by John Castle, president of European Packaging Federation and marketing adviser, Bowater Packaging, Ltd., in the British *Institute of Packaging Journal*. "If we want to sell in this market," he says "we must do it their way. We must consider contrasting conditions in 18 different countries." Point by point, these involve: (1) Weights and measures (pounds versus kilos, pints versus litres) and the adaptation of machines to convert to handling these different quantities. (2) Languages label information in the languages of the countries where the products are to be sold. (3) Religious and local customs that must be considered in package design and product interpretation. For example, no crosses on packages exported to Moslem countries. (4) Color preferences to meet local situations. (5) Shipping quantities suitable for either mechanical or manual handling.

In packaging for these areas, these are only a few of the conditions that must be recognized in view of the vastly different climatic, geographical and sociological situations that are encountered, he said.

France

Growth of self service in Europe

A comprehensive study of the development of self service and pre-packaging in Europe estimates that today there are 36,294 self-service outlets in 13 countires. Even in 1954, the author of the study says in *Emballages* (France), it could have been estimated that this method of selling had little chance of success in Europe. But since that date, the trend has been completely reversed. The movement which started with 200 stores in 1948, apparently, has been welcomed wherever self service has been installed.

Paper strips for tensional strapping

Introduced on the French market is a new strapping material consisting of spirally wound tubing of kraft paper, laid parallel and glued together to form a continuous strip. The straps, according to *Emballages* (France), can be handled in the same way as metal strips and the metal seals may be applied by conventional tools.

Tested at the Laboratoire General pour Emballage, the tensile strength was found to amount to 63 kgf per centimeter and on sealed portions, 61 kgf. The strips are available in reels of 1,000-meter length and application is recommended for fragile packages and containers with fragile products which are liable to be damaged when normal steel strapping is applied to them.

Scotland

Ceiling-mounted filling machine

The possibility of ceiling mounting of packaging machinery to conserve floor space is suggested by a horizontal machine to fill all types of powders and granulates into sacks and bags, developed in Scotland. The motor drive is in-line with the worm feed and the hopper is above. The filling nozzle is of special design, fitted with an adjustable pressure-plate attachment which aereates the powder during the filling operation. The pressure plate may be pre-loaded to any desired pressure by a weight-bar arrangement. This provides for successful filling of different densities on the same machine, it is stated. In one instance it was found possible to pack 140 lbs. of a fine, fluffy powder into a drum which would hold only 40 lbs. when filled by other methods. This results in considerable savings in filling costs, container costs and consequential savings in transport and storage, it is pointed out. Operating at 250 r.p.m., the machine is capable of giving a free output of 6,000 lbs. per hour of fine talcum-like powdered products.

Italy

New pillow-pack machine

A versatile new machine suitable for wrapping many types of articles—even very irregular in shape—at the rate of 60 per minute is reported from Italy. The machine produces pillow-type packages with crimped end seals. The packages are made from a continuous web first formed into a tube horizontally around a form into which each article to be packed is pushed through the hollow former, after which the end seals are made by crimping and heating. The machine is provided with a lugged chain conveyor onto which the articles are placed by hand. In this way, they are inserted into the tube of wrapping material with equal interspaces, which is necessary because the distance between the cross seals of each package is fixed by the circumference of the rotary crimp sealers at the end of the machine. The machine is suggested for cakes of soap, biscuits, baked foods, paint brushes, steel-wool pads, etc. It can handle most types of thermoplastic films and coated cellophane. The longitudinal seam is of the fin type, produced by heated rollers (coating to coating), folded over and laid flat against the package.

Switzerland

Snap-off pilferproof polyethylene cap

A new pilferproof closure for bottles, flasks, glass tubes for tablets and collapsible tubes has appeared in Switzerland. The snap-off cap, made of polyethylene in one operation, is provided with a skirt. By pulling a tab, the skirt can be torn off, leaving the top of the cap in position and maintaining a tight seal. The cap can be removed by exerting pressure underneath the protruding lip. For reclosing the container, the cap is firmly pressed down over the slightly projecting rim. This is sufficient, it is said, to obtain a perfect seal. The patented cap can be applied either by hand or by semi-automatic or fully automatic machinery that was especially designed for the job. Output ranges from 3,000 to 7,000 closures per hour, it is reported.

Germany

Overseas transport of dangerous articles

The advisory council for overseas packing in Hamburg (Beratungsstelle fur seemassige Verpackung EV) has decided to start a special division dedicated to the packing of what are termed "dangerous goods." According to *Die Neue Verpackung* (Berlin), the overseas transport of dangerous goods is rapidly increasing and in this respect it is of value to inform exporters about novel packaging materials and

*For additional information, write: World Report Editor, MODERN PACKAGING, 770 Lexington Ave., New York 21.

World Report* [*Continued*]

methods with the object of saving on packaging costs, decreasing transport damage and increasing the safety of ship and cargo. If required, field tests can be carried out on the council's testing area at Tollerort to observe the performance of new types of packs.

Polystyrene-foam containers for air drops

Tests carried out at Donaueschingen Airfield have proved that containers made of expanded polystyrene are ideal for air dropping, says *Die Neue Verpackung* (Germany). The containers were loaded with glass bottles, each filled with blood serum, and tests were carried out dropping the containers from various heights—between 25 and 100 meters—and at various speeds. In no case was even one bottle damaged, the report states, and some containers dropped six times showed only surface impressions where they had touched the ground. Apart from their cushioning properties, these foam containers are very light in weight and are reported to provide efficient insulation against heat.

Wooden cases declining in Europe

The yearly conference of the European Assn. of Wooden Case Makers (Federation Européenne des Fabricants de Caisses et Emballages en Bois) in Madrid was reported in *Die Neue Verpackung* (Germany). In several countries, especially in the UK and Holland, the wooden case-making industry suffers badly from competition of the corrugated and solid fibreboard industry, it was stated. French and Belgian representatives stressed the severe competition in prices, which in France, apparently, is rendering the production of pallets impossible. The German association stated that due to increasing labor costs, social welfare and increased wood prices, it becomes very difficult to maintain selling rates. All members of the association agreed that the high prices of wood were tending to stimulate the plastics industry in creating competitive articles.

Canada

Growth of plastics

Canada's burgeoning plastics industry experienced a year of increased activity, becoming a $250-million industry in 1960, says *Packaging Progress* (Canada). "Certainly no more a novelty to the consumer," the editorial states, "plastics products and films have not only improved food control, but also permitted greater product diversity and longer shelf life." In Canada cellulose film and polyethylene continue to hold the principal positions among plastics. Consumption of polyethylene rose 20% in 1960 to an all-time high of 70-million pounds. Canada is expected to use about 9,000,000 lbs. this year for bread wrapping.

England

Aerosol sales are soaring

During 1954, the total UK production of aerosols stood at 3.5-million units. By 1959 it had reached a level of 27 million, according to *Packaging Review* (England), an increase of nearly 400%. During 1960 the demand continued to rise at an unprecedented rate and total sales of aerosol containers are estimated to have exceeded 45 million. One reason for the expansion of aerosol production, according to this article, is that for the past two or three years aerosol packaging has had a greater practical than novelty value. The cost of the packages has also decreased with increased production. And, in addition, general inprovement in the standard of living has made the housewive keener to purchase what once might have been regarded as luxuries.

Packaging course at university

The first residential educational course in packaging in Britain was conducted at Reading University during the spring. According to *Packaging News* (England), this was a comprehensive course of lectures based on the British Institute of Packaging's syllabus for qualified membership and is intended mainly for those already with some experience in packaging. The course included a visit to the package testing laboratory of PATRA (Printing, Packaging & Allied Trades Research Assn.).

Filling polyethylene bags in vacuum frame

A method of filling heavy-gauge polyethylene shipping bags in a "frame" or mold under vacuum has been devised in England. The result is a completely rigid pack of rectangular shape with many cited advantages. The bags filled in this manner can be stacked closely together, need less space and, because they are rigid—not floppy, are easier to handle. Equipment consists of (1) a mold or frame that gives shape to the bag, (2) a vacuum pump to remove air that may cause bubble-like bulges, (3) heat-sealing jaws to close the pack. The empty bag is placed in the frame, which is positioned under the hopper. Compressed air is blown into the bag so that it takes the form of the frame. A weighed quantity of granules is dispensed into the bag while the compressed air is still blown into it. This prevents "build up" at any point in the pack and permits even distribution within the bag. The frame is then moved on to the vacuumizing and sealing stages where a vacuum probe is inserted into the bag and 8 to 10 in. of vacuum is drawn. The seal is made and the vacuum probe is automatically removed by the closing action of the sealing jaws. The bags are efficient for palletizing. Stacked, they keep their flat shape due to the weight of the others and no not slip.

Aluminum foil for flowers and produce

The effectiveness of aluminum foil as a moisture barrier is well known, but interesting results of experiments by Fisher's Foils, Ltd., showing the use of aluminum foil to shield produce from heat and thereby delay wilting are reported in *Produce Packaging* (England). Flowers were selected because of their quick response to atmospheric conditions and the easily discernable changes in their condition. Two packs were prepared, one consisting of flowers in what was described as "an ordinary container," the other of similar flowers first wrapped in thin, unsupported foil (0.00035 in. thick) and placed in a second container. The two packs were allowed to stand for one week, during which time room temperature and temperature inside each container were continuously recorded on a graph. At the completion of the test, it was shown that the room temperature had varied between 50 and 83 deg. F. Within the foil-wrapped pack the temperature during the whole week varied only between 60 and 70 deg. F. and for long periods varied only between 62 and 66 deg. F.

Flowers packed in the normal way were reported beyond redemption at the end of three days, while those wrapped in foil for six days and then placed in water revived.

Denmark

Danish food fair features packaging

An important section of the Danish Food Fair is to be devoted to packaging and package machinery, according to advance announcements of this event, reportedly to be the biggest ever in Aalborg—the town made famous by aquavit—June 2 to 11. Proud of their packaging for its protective aspects as well as its attractive appearance, the Danes are making every effort to present the best examples in this exhibition of the accomplishments of Danish food industries. Visitors are expected from all over the world.

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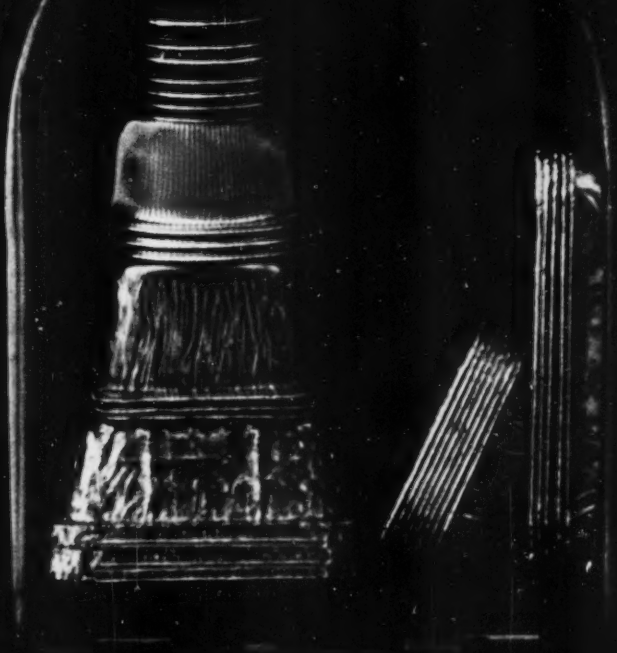


before you can say Ekco-Alcoa...

rigid foil containers are on their way

No other single source offers such a wide selection of useful, distinctive aluminum packages—or delivers with such speed.

Round, square, oblong, heart-shaped . . . for coffee cake, tomato soup, ball bearings . . . in natural finish, unusual patterns, or rich, brilliant colors . . . Ekco-Alcoa makes over 200 standard foil containers available instantly through its nationwide network of distributors.

All kinds of specialty containers and closure materials are also available. And Ekco-Alcoa even offers a wide assortment of high-speed packaging equipment on either a sale or rental basis.

It costs no more to take advantage of Ekco-Alcoa's complete line. Ask your nearby distributor for details. Or write direct.

EKCO-ALCOA CONTAINERS INC.

The Plus Container

EKCO-ALCOA is a registered trademark of Aluminum Company of America
The following are registered trademarks of Aluminum Company of America: ALCOA, ALCOA with diagonal bar, ALUMINUM COMPANY OF AMERICA, ALUMINUM, ALUMINUM with diagonal bar, ALUMINUM with triangle, ALUMINUM with triangle and diagonal bar, ALUMINUM with triangle and horizontal bar, ALUMINUM with triangle and vertical bar, ALUMINUM with triangle and two bars, ALUMINUM with triangle and three bars, ALUMINUM with triangle and four bars, ALUMINUM with triangle and five bars, ALUMINUM with triangle and six bars, ALUMINUM with triangle and seven bars, ALUMINUM with triangle and eight bars, ALUMINUM with triangle and nine bars, ALUMINUM with triangle and ten bars, ALUMINUM with triangle and eleven bars, ALUMINUM with triangle and twelve bars, ALUMINUM with triangle and thirteen bars, ALUMINUM with triangle and fourteen bars, ALUMINUM with triangle and fifteen bars, ALUMINUM with triangle and sixteen bars, ALUMINUM with triangle and seventeen bars, ALUMINUM with triangle and eighteen bars, ALUMINUM with triangle and nineteen bars, ALUMINUM with triangle and twenty bars, ALUMINUM with triangle and twenty-one bars, ALUMINUM with triangle and twenty-two bars, ALUMINUM with triangle and twenty-three bars, ALUMINUM with triangle and twenty-four bars, ALUMINUM with triangle and twenty-five bars, ALUMINUM with triangle and twenty-six bars, ALUMINUM with triangle and twenty-seven bars, ALUMINUM with triangle and twenty-eight bars, ALUMINUM with triangle and twenty-nine bars, ALUMINUM with triangle and thirty bars, ALUMINUM with triangle and thirty-one bars, ALUMINUM with triangle and thirty-two bars, ALUMINUM with triangle and thirty-three bars, ALUMINUM with triangle and thirty-four bars, ALUMINUM with triangle and thirty-five bars, ALUMINUM with triangle and thirty-six bars, ALUMINUM with triangle and thirty-seven bars, ALUMINUM with triangle and thirty-eight bars, ALUMINUM with triangle and thirty-nine bars, ALUMINUM with triangle and forty bars, ALUMINUM with triangle and forty-one bars, ALUMINUM with triangle and forty-two bars, ALUMINUM with triangle and forty-three bars, ALUMINUM with triangle and forty-four bars, ALUMINUM with triangle and forty-five bars, ALUMINUM with triangle and forty-six bars, ALUMINUM with triangle and forty-seven bars, ALUMINUM with triangle and forty-eight bars, ALUMINUM with triangle and forty-nine bars, ALUMINUM with triangle and fifty bars, ALUMINUM with triangle and fifty-one bars, ALUMINUM with triangle and fifty-two bars, ALUMINUM with triangle and fifty-three bars, ALUMINUM with triangle and fifty-four bars, ALUMINUM with triangle and fifty-five bars, ALUMINUM with triangle and fifty-six bars, ALUMINUM with triangle and fifty-seven bars, ALUMINUM with triangle and fifty-eight bars, ALUMINUM with triangle and fifty-nine bars, ALUMINUM with triangle and sixty bars, ALUMINUM with triangle and sixty-one bars, ALUMINUM with triangle and sixty-two bars, ALUMINUM with triangle and sixty-three bars, ALUMINUM with triangle and sixty-four bars, ALUMINUM with triangle and sixty-five bars, ALUMINUM with triangle and sixty-six bars, ALUMINUM with triangle and sixty-seven bars, ALUMINUM with triangle and sixty-eight bars, ALUMINUM with triangle and sixty-nine bars, ALUMINUM with triangle and seventy bars, ALUMINUM with triangle and seventy-one bars, ALUMINUM with triangle and seventy-two bars, ALUMINUM with triangle and seventy-three bars, ALUMINUM with triangle and seventy-four bars, ALUMINUM with triangle and seventy-five bars, ALUMINUM with triangle and seventy-six bars, ALUMINUM with triangle and seventy-seven bars, ALUMINUM with triangle and seventy-eight bars, ALUMINUM with triangle and seventy-nine bars, ALUMINUM with triangle and eighty bars, ALUMINUM with triangle and eighty-one bars, ALUMINUM with triangle and eighty-two bars, ALUMINUM with triangle and eighty-three bars, ALUMINUM with triangle and eighty-four bars, ALUMINUM with triangle and eighty-five bars, ALUMINUM with triangle and eighty-six bars, ALUMINUM with triangle and eighty-seven bars, ALUMINUM with triangle and eighty-eight bars, ALUMINUM with triangle and eighty-nine bars, ALUMINUM with triangle and ninety bars, ALUMINUM with triangle and ninety-one bars, ALUMINUM with triangle and ninety-two bars, ALUMINUM with triangle and ninety-three bars, ALUMINUM with triangle and ninety-four bars, ALUMINUM with triangle and ninety-five bars, ALUMINUM with triangle and ninety-six bars, ALUMINUM with triangle and ninety-seven bars, ALUMINUM with triangle and ninety-eight bars, ALUMINUM with triangle and ninety-nine bars, ALUMINUM with triangle and one hundred bars.

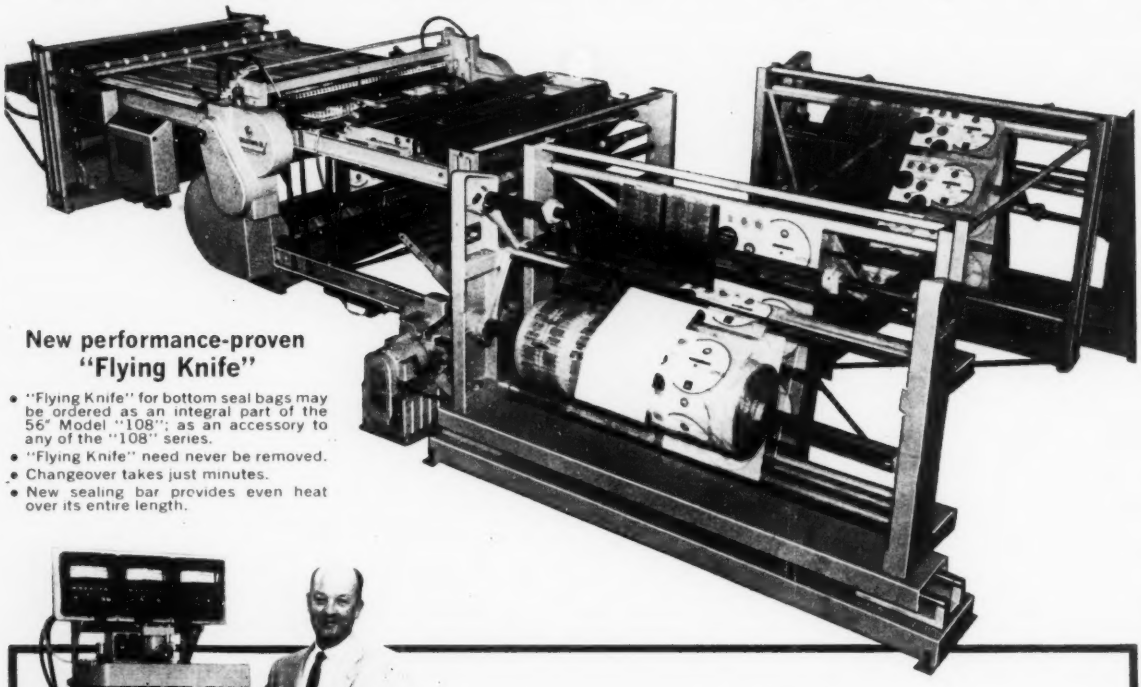
New 56″ Schjeldahl "108"...
widest, most versatile poly bag machine made!

Produce more bags...larger bags...at lower cost!

Even if you pay a higher price, you can't buy another machine with the capacity, speed and versatility of the new 56″ Schjeldahl "108".

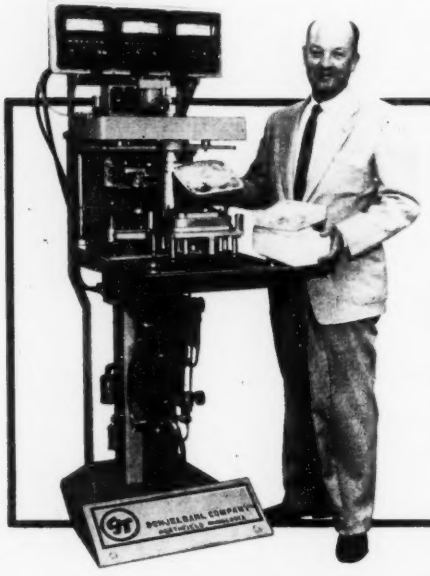
CAPACITY: With single web, makes bags up to 54″; two webs, bags up to 26″; can even make 12½″ bags, four up.
SPEED: Operates at as many as 120 cycles per minute.

VERSATILITY: Side weld or bottom seal; single or multiple webs; *exclusive Twin Rack* Control lets you take different draws on two webs running simultaneously.



New performance-proven "Flying Knife"

- "Flying Knife" for bottom seal bags may be ordered as an integral part of the 56″ Model "108"; as an accessory to any of the "108" series.
- "Flying Knife" need never be removed.
- Changeover takes just minutes.
- New sealing bar provides even heat over its entire length.



For positive Air-Tight, Liquid-Tight Polystyrene Seals!

Now, your product can be hermetically sealed in an FDA-approved container . . . sealed with the new Schjeldahl Polystyrene machine. Accepts sizes up to 9″ x 11″ x 3½″ in nearly any shape with interchangeable dies. Dies accept a variety of lids . . . flat, recessed, dome and telescoping. Exclusive 180° fold-over lock plus positive heat sealing makes joint as strong as polystyrene package itself. Withstands temperatures of −40° to +180°.

PRODUCTS GT SERVICES

G.T. Schjeldahl Co.

NORTHFIELD, MINNESOTA

Putting Tomorrow's Materials to Work Today

SATELLOON® Schjeldahl

FASTER TURNOVER

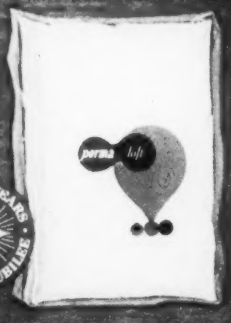
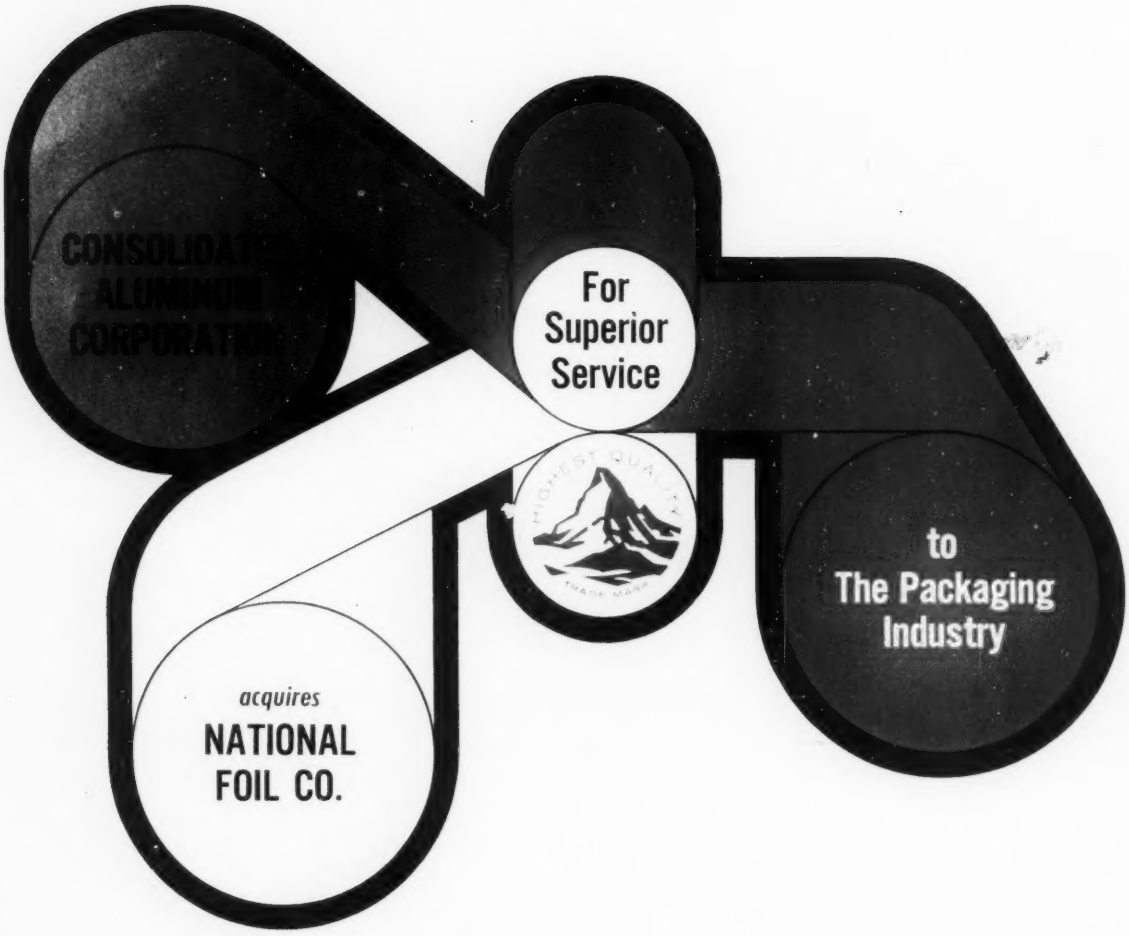


Photo by Sears
Package by Milprint

MILPRINT PACKAGING

GIVES YOUR PRODUCT

MARKETING POWER



For 23 years, National Foil Company has set and maintained the highest standards of craftsmanship in plain, embossed and colored foil laminations. Now as a subsidiary of Consolidated Aluminum Corporation, a producer well known for highest quality plain foil, National will continue to supply the finest of laminations for the graphic arts and packaging industries. Inquire through any of the offices listed.

Have you seen National Foil Company's "Hi-Lite"? This lamination permits super-fine embossing and opens new horizons in design—another example of National Foil's leadership.*

NATIONAL FOIL COMPANY

913 Newark Ave. Waverly Terminal Elizabeth, N. J.

A Subsidiary of

CONSOLIDATED ALUMINUM CORPORATION

General Sales Office—9 Rockefeller Plaza, New York, N. Y.

Plant - Jackson, Tenn.

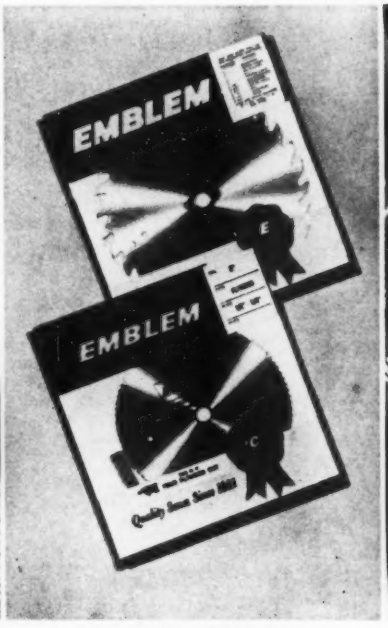
**Patent Pending*

CONALCO Sales Offices: North Central Express, 1422 Euclid Ave., Chicago, Ill., La Habra, Calif., Atlanta, Ga.

STRONG, CLEAR DUPONT "MYLAR"* SOLVES THE TOUGH PACKAGING PROBLEMS

DEEP-FREEZE COLD

Stow it away in the coldest freezer, ship it under the roughest conditions—this sparkling vacuum pack of "Mylar"* polyester film and polyethylene stays strong. Leakers pose no problem for San Juan Fishing & Packing Co., Seattle.



SHARP EDGES

Jagged saw teeth can't puncture this new heavy-hardware package of "Mylar" and polyethylene bonded to cardboard. It's the only package that the Chicago Saws Co. could find to do this tough job . . . and still show the product.

BOILING HEAT

Heat-in bags of "Mylar" and polyethylene are getting wider distribution for Patio Foods, Inc., San Antonio. They've found bags of "Mylar" protect food flavor best, withstand broad temperature ranges from boiling to freezing.

*Du Pont's registered trademark for its polyester film.

Your Du Pont Authorized Converter has combinations of "Mylar" in roll stock or pouches. He can also provide more information. For his name write: E. I. du Pont de Nemours & Co. (Inc.), Film Dept. MP-1, Wilmington 98, Del.

DU PONT
Better Things for Better Living through Chemistry

DU PONT MYLAR® POLYESTER FILM

• MISERS MATERIAL COSTS
• MULTIPLIES PRODUCTION
• MINIMIZES SPACE NEEDS
in two important packaging operations

A manufacturer of eye beauty products formerly used three-inch asphaltic tape to make up master shipping containers. A Bostitch Economy Man recommended stapling. A Bostitch "Golden Belt" box bottomer increased production to 500 cartons a day, three times as fast as the other method. Space needs were reduced 50 per cent and material costs cut in half. Stapling has also improved carton appearance.

In another operation, 15,000 eyebrow pencils are carded daily by a single operator using a Bostitch motor-driven stapler. Previously the pencils were slid into preformed slots on the card without protection. Now, by stapling a blister cover on the card, pilferage has been greatly reduced at the retail level. Inventory shrinkage also has been minimized because the products stay clean and are easier to stock.

For more information, look up Bostitch in your phone book and ask the Bostitch Economy Man to analyze your fastening methods. If stapling can cut your costs, he'll know how. Call him soon. Or write to address below.

▲ To secure plastic blister to card requires only two staples with a Bostitch motor-driven stapler. Each operator turns out about 15,000 carded eyebrow pencils daily.

◀ Motor-driven "Golden Belt" box bottomer staples wide range of boxes, including 350-lb. test solid fiberboard export cartons. Its deep throat allows stapling entire bottom of carton without reversing.

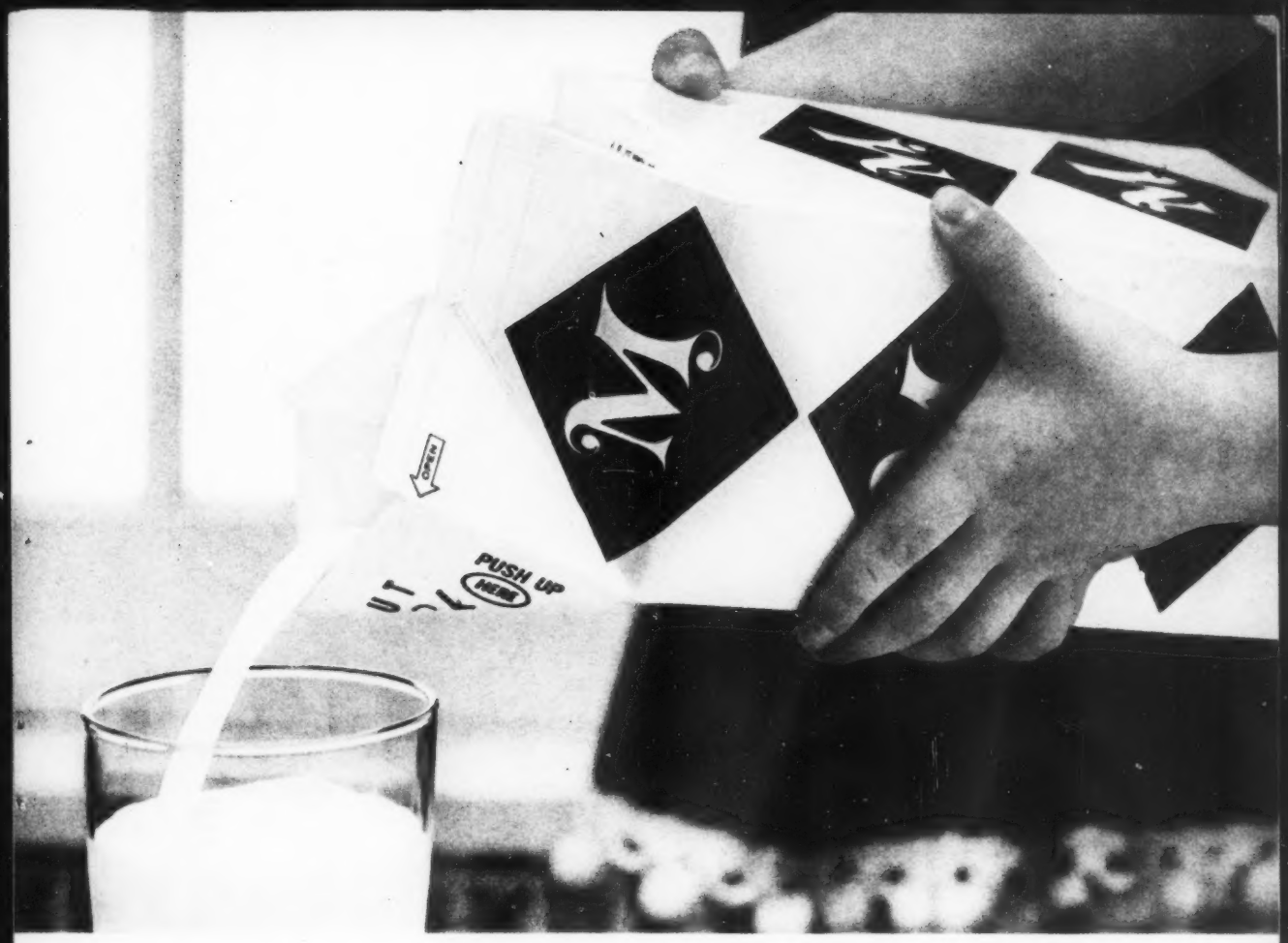
Fasten it better and faster with

With Every Bostitch Machine You Get . . .

The right combination for your needs from 800 staplers and over 200 staples . . . nation-wide parts, service and technical aid backed by the industry's most modern factory . . . assurance that Bostitch products will operate to your complete satisfaction.

BOSTITCH®
STAPLERS AND STAPLES

486 BRIGGS DRIVE, EAST GREENWICH, RHODE ISLAND



PROBLEM: How to improve the most widely used milk carton in America.

SOLUTION: International Paper produces a remarkable new plastic-coated Pure-Pak® milk container.

THE FAMILIAR Pure-Pak carton is the most widely used milk carton in America.

This carton is tough and durable. Dairymen also like it because it is stored *flat*, takes up much less storage space. And housewives appreciate its unique pitcher-pour spout. Supermarket managers like the Pure-Pak carton because *housewives do.*

Now International Paper has helped improve this Pure-Pak milk carton by coating paper board with *plastic*. This gives the carton a sturdy feel and glistening appearance, increasing its sales appeal.

International Paper has had ten years' experience in coating paper with plastic. And the last three years have been spent in testing this revolutionary carton in dairies.

Millions of plastic Pure-Pak cartons made by International Paper are now being used in day-to-day dairy operations. Proof of their success is the increased demand that dairies have reported when they use these new containers.

The plastic-coated Pure-Pak container is another example of International Paper's packaging versatility. International Paper can provide you with the widest range of papers, paperboards and packaging assistance in the industry. If you are interested in *improved* packaging, call on us.

®Ex-Cell-O Corporation

INTERNATIONAL PAPER

NEW YORK 17, N. Y.

Manufacturers of papers for magazines, books and newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • shipping containers • folding cartons • milk containers • multiwall bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials

AT LAST!

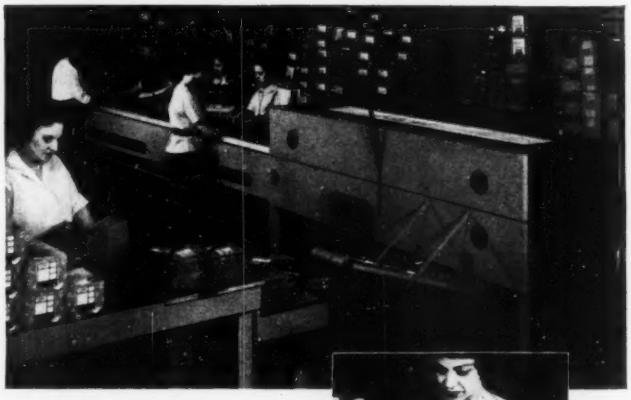
BLIST-O-MATIC

Automatic BLISTER PACKAGING-SEALING

YES...THE PRACTICAL AUTOMATIC MACHINE for Blister Packaging is here at last . . . developed by engineers who have been intimately associated with production and use of back-up cards for Blister Packaging . . . and who *know* the problems and needs in this field.

Relatively simple but rugged construction . . . smooth *continuous motion* operation . . . readily accessible parts throughout . . . ease of change-over of Blisters and Cards . . . much faster production with no increase in labor . . . these are built into BLIST-O-MATIC. Check these basic features of the machine:

1. Smooth CONTINUOUS MOTION operation . . . no stop-and-go stuttering
2. Fully automatic Card feeding
3. Standard model handles Cards from 2½" x 3½" to 8½" x 11"
4. Handles Blisters up to maximum depths
5. Will handle full line of sizes . . . with changeover time of only ½ hour or less
6. Simplicity of construction means easy maintenance . . . with your own plant people
7. Produces finished Blister Packages at 3000 to 8000 or more per hour . . . *or as fast as Blisters can be loaded with merchandise* (automatic loading is possible with many products)
8. Automatically ejects finished packages
9. Gives accurate Blister-Card registration, and positive, sure seal of Blister to Card
10. Conveyor length at your discretion . . . plenty of room for any number of product loaders



Any number of loading stations may be provided for, with ample working room...Machine automatically discharges completed, firmly sealed packages to packing table.

Card feed and Blister sealing are fully automatic.

Even with this difficult pack for Masonite Corp. Peg-board hardware, speeds up to 35 or more packages per minute are obtained.

• WRITE TODAY FOR DESCRIPTIVE FOLDER, FULL DETAILS

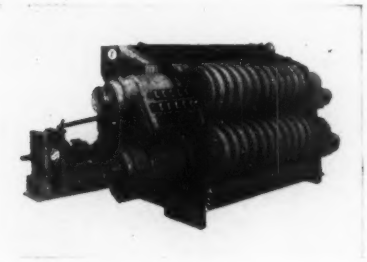
Wirth-Rhodes Corp. ★ *packaging machinery*

1914 WEST 14TH STREET, CHICAGO 8, ILLINOIS ★ MOnroe 6-3155

Packaging Notes

Tamper-proof, re-sealable container for liquids, powders or pills features a unique, locked-in closure of polyethylene. A protruding knob can be "snapped off" easily with one hand—yet is completely tamper-proof before purchase and use since closure is a one-piece unit. To re-seal, user merely sets the now-separate tip into opening and presses it down until it locks in place.

High-speed slitting machine slits and rewinds polyethylene film, coated papers and other materials of uneven caliper at speeds up to 1700 ft. per min. Available in all sizes up to 64" web width for razor blade or shear cut.



New sealer-handle designed for use on polyethylene bags provides an air-tight waterproof seal, then locks to form a convenient carrying handle. Current applications include packaging fruit, produce, toys.

It's of simple, one-piece construction—just a strip of .060 inch polyethylene with a horizontal center slit and interlocking hooked ends. To apply, top of the filled bag is pulled through the slit, the sealer-handle rolled downward and the hooks joined. To open, process is reversed. Neither sealing nor re-opening damages bag.

This device, also reusable, will reportedly hold any weight the bag will support. Since two separate bags can share a common sealer-handle, it's ideal for tie-in merchandising.

Polyethylene sealer-handle attaches in 4 to 5 seconds, can be used over and over.

Magazines Now Mailed In Polyethylene Film

Tight, Handsome Machine-Wraps Protect Better, Cost Less

Hand insertion of magazines into envelopes may soon be a thing of the past. A Midwestern printer now packages publications for mailing at the rate of 1000 magazines per hour, twice the rate of the hand operation!

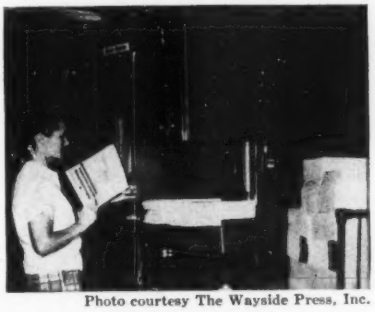


Photo courtesy The Wayside Press, Inc.

Publication is shown being packaged in polyethylene film. Magazines reach subscribers clean, fresh and undamaged.

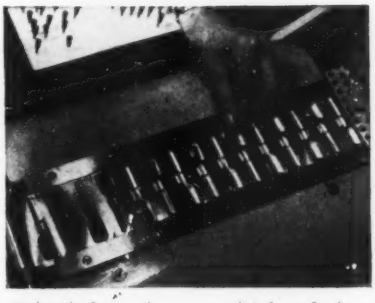
He uses rolls of 1.5-mil polyethylene film printed in two colors. A Model MA packaging machine forms bags around the magazines and heat-seals them tightly against moisture and dirt.

High Acceptance

The printer reports that after the first experimental mailing of 100,000 magazines, no complaints were received from either the Post Office or from subscribers. In fact, subscribers have written to the publishers expressing enthusiasm for the improved appearance of the mailed material and the better condition of the magazines on arrival. Front and back covers are clearly displayed through the transparent film.

The success of this printer with polyethylene-packaged magazines opens up a whole new field of possibilities for the mailing of printed matter. Improvements were achieved with no increase in overall costs. The advantages of mechanization, improved appearance, colorful package printing, and protection against soiling, rough handling, tearing and weather should not be overlooked by anybody who ships extensively through the mails.

Polyethylene Helps Package Hypodermic Needles



Polyethylene plays a multiple role in a new strip package developed in England for hypodermic syringe needles. The web materials used are polyethylene coated cellulose film and a laminate of .0035 mm aluminum foil and .0015 in. polyethylene film.

Novel automatic machines form shaped depressions in the foil web to receive the needles and, after these have been hand-inserted, complete the packs with the cellulose film cover and a polyethylene-to-polyethylene heat seal.

The finished strip is scored for easy tearing between each needle packet and cut after every twelfth. As a final step the needles are sterilized by permeating the package with ethylene oxide gas.

Polyethylene's toughness, resistance to bacteria and moisture-barrier properties also get into the act—keeping the needles sterile and ready for use almost indefinitely.

Did You Miss These?

Reprints of two recently published articles on polyethylene are currently available through U.S.I.:

1. "Poly Bread Wraps: Growth Continues," 4 pages, by William U. Funk, U.S.I. Sales Engineer.
2. "The Effect of Molecular Weight Distribution on the Flow Properties of Polyethylene," an 8-page technical report of experimental work conducted at U.S.I.'s Polymer Service Laboratories.

If you missed either or both of these timely articles, or would like extras for your file, copies can be obtained by writing Technical Literature Department, U. S. Industrial Chemicals Co., 99 Park Avenue, New York 16, N. Y.

IF YOU WOULD LIKE further information on any developments reported in U.S.I. Polyethylene News, U.S.I. will be glad to send you the names of the manufacturers. U.S.I. also invites you to send information on your new developments for possible inclusion in the News.

Address:
U.S.I. Polyethylene News, U.S. Industrial Chemicals Co., 99 Park Avenue, New York 16, New York.

CANDY SELLS FASTER, STAYS FRESH LONGER IN CLEAR, LOW-COST POLYETHYLENE

From candy balls to boxed chocolates, polyethylene packaging adds sales appeal to your product . . . cuts dollars from your packaging costs. No other packaging film provides as many advantages because only polyethylene has this combination of properties:

Sparkling Clarity. Your product is displayed "live" at its tempting best.

Toughness. Polyethylene's excellent impact and tear strength insure protection. Even sharp edges of hard candy, brittles, pop and sucker sticks won't puncture this strong film.

Moisture Barrier. Polyethylene keeps moisture *in* such products as coconut, fudge, gums and jellies; keeps moisture *out* of brittles, mints, filled hard candy, pops, boxed chocolates—even boxed chocolates for freezing. Maintains marshmallows at proper relative humidity.

Flexibility. This film won't crack, crinkle or crackle like other wraps. Noiseless—a boon to movie goers—it also "feels" as natural as it looks.

Easy Printability. Clear, bright colors register sharply . . . make your trade name pop out . . . open up new design possibilities in novelty packaging.

Tight Seals. Polyethylene is easy to heat seal . . . stays sealed, even with rough handling.

Packaging Versatility. Polyethylene is available in small, medium and large bags; tubes; strip packs; and film for overwrap. Can be handled on automatic bagging and overwrap machinery at top speed.

Economy. Polyethylene costs less than other highly transparent packaging materials . . . pays extra dividends in longer shelf life of products.

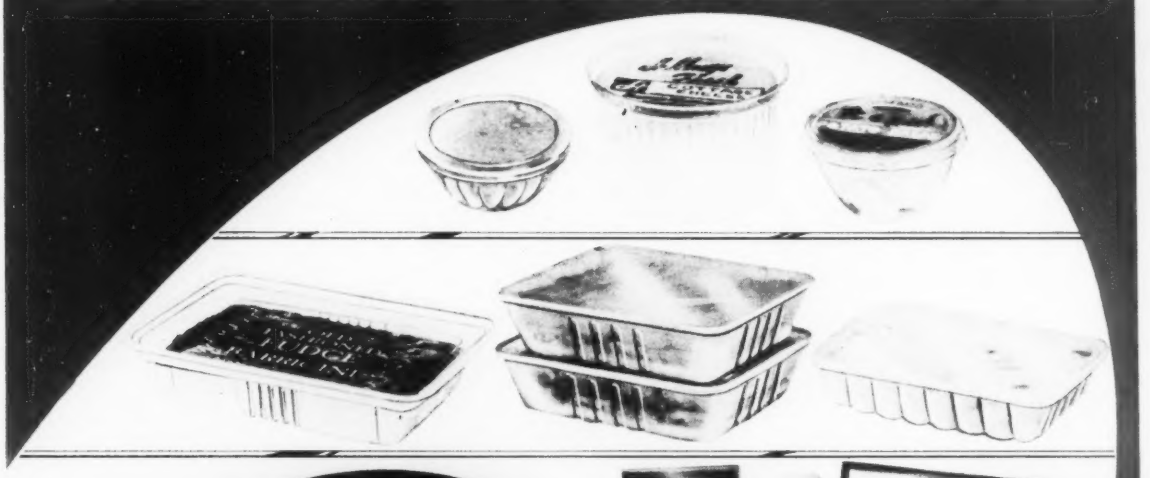
Put these advantages to work for your company by contacting your bag or film supplier. U.S.I., manufacturer of PETROTHENE® polyethylene resins for bags and film, will be glad to work with you and him in selecting the right polyethylene film for your operation.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

Time for a new look in **your** packaging? J-E, the nation's largest designer-producer of semi-rigid plastic packaging, is the first place to look for the package of distinction. Sparkling transparency, multi-color graphics, precise specifications **and** large scale automatic equipment for fast delivery combine to make J-E the pace setter.

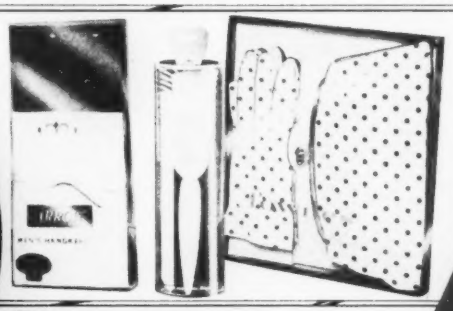
Our famous acetate containers transform the most mundane product into a gift — and our pressure-formed FDA-approved oriented styrene containers have opened a new era in food merchandising. Imagine — plastic containers which retain their shape and good looks in long term sub-freezing and short term boiling temperatures!

Whether your product is a paint brush or a prepared dinner . . . a shoestring or a seafood salad . . . J-E's economical containers can put sparkle in your sales!



Frozen Food...
or Fountain Pens

everything looks better... sells faster ...in a J-E container



MP-6-61

NAME_____

ADDRESS_____

COMPANY_____

OUR PRODUCT IS_____

PLEASE SEND YOUR ILLUSTRATED CATALOG OF IDEAS FOR PACKAGING IN PLASTIC_____

250 per minute... on foil!

Fels had to have fast grab to withstand drag on bottom closures at the filling head . . . fast set to bond top closures in 30 seconds . . . extra tack to hold springy "Van Buren ears." A POLYBOND adhesive does it.

Heavy wax or foil... with the same adhesive!

Shedd-Bartush wanted to save time when changing from heavy-waxed to foil cartons . . . by using the same adhesive for both jobs. A POLYBOND adhesive bonds the waxed surfaces, using heater bars and without first dewaxing . . . or it bonds the foil, without heat.

Next closure problem, please

• Want to see a true engineering approach to your closure problem? Call Polymer. We don't stop with a "satisfactory" adhesive that will run today. We analyze the problem to find *all* the requirements . . . then we look for an adhesion system that takes care of stock variables, higher machine speeds and demands for more durable bonds . . . to keep you out of trouble tomorrow. We call it "Adhesion Engineering."

Figure the cost of just one adhesive failure . . . in terms of wasted materials, rejects, down time . . . and you'll see why Adhesion Engineering pays off.

POLYMER INDUSTRIES, INC., Dept M6, Springdale, Conn.

Polymer Industries

POLYMERS, COPOLYMERS, SOLVENT BASE COMPOUNDS FOR BONDING, COATING, SIZING AND LAMINATING. PLANTS AT SPRINGDALE, CONN. AND GREENVILLE, S. C.

LARGE SIZE... SMALL SIZE... ANY SIZE...

Cleveland Containers are functionally designed to protect and "sell" your product . . . *and at low unit cost!*

Sturdily constructed of quality paperboard or transparent plastic, Cleveland Containers are made to specific product needs with: —

CLOSURES in many styles and diameters in metal, plastic and paper.

LINERS of parchment, glassine, aluminum foil or plastic film.

LABELS in a colorful selection of styles for brilliant display.

The services of our Packaging Engineers are available without charge.

CLEVELAND CONTAINERS INCREASE SALES

Illustrated above — These containers, ideally designed in 8- and 16-oz. sizes, for a powdered soap, have these built-in features: **1**—Sturdy fibreboard construction; **2**—Bright, waterproof aluminum foil label; **3**—Attractive, smooth-working plastic closure; **4**—Non-rusting, metal bottom; **5**—Perfectly sized for effective display, and handy use in the home and shop.

The new "DIAL-O-MATIC" closure! Made of plastic, the wheel smoothly glides and locks in 3 positions: close . . . pour . . . sift! Recessed rim permits lock-sure stacking. Available in several styles, diameters, and color combinations.

Write for our latest Packaging Brochure

THE
CLEVELAND CONTAINER
COMPANY

Plants and Sales Offices:
Cleveland
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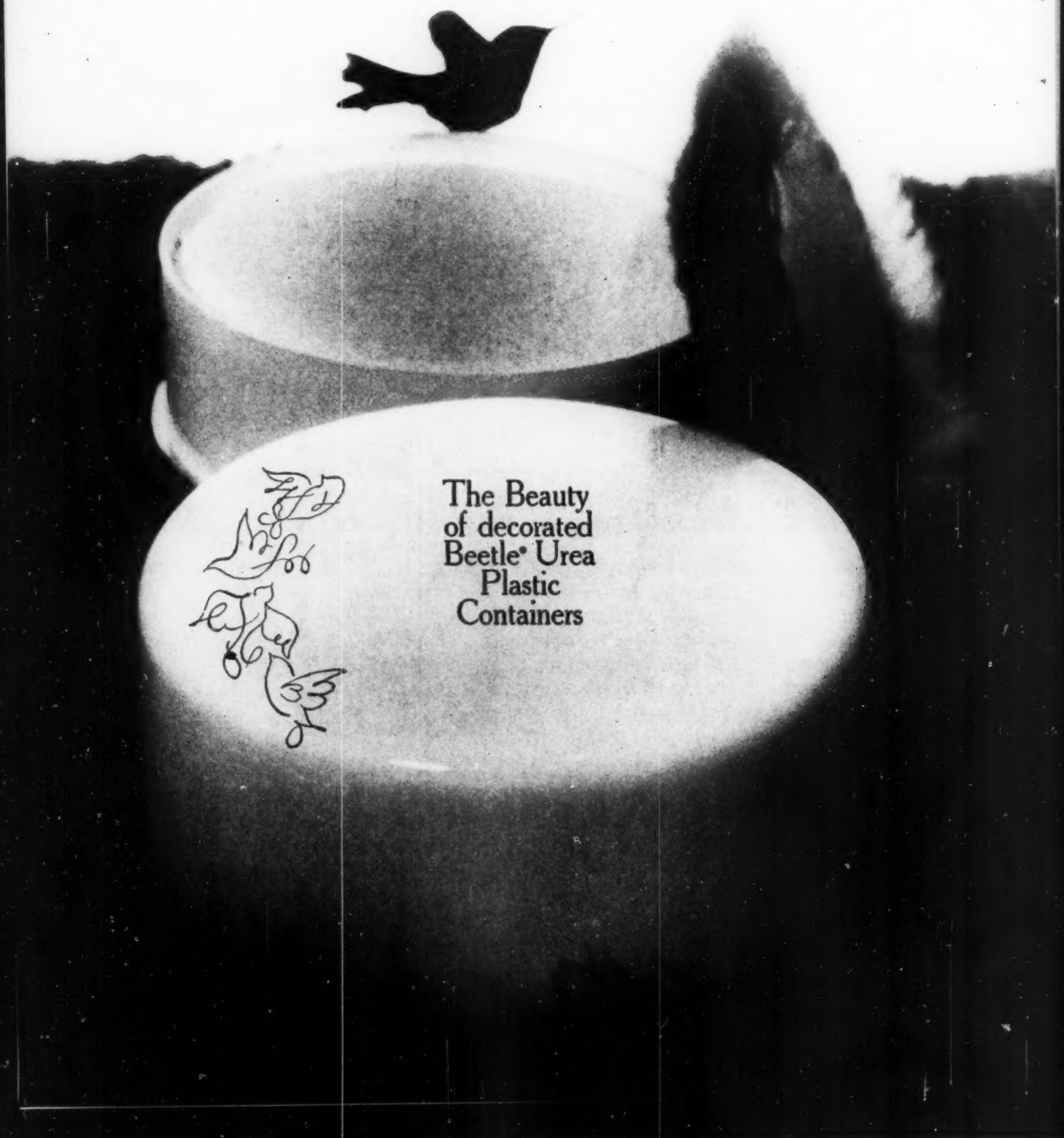

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EDITORIAL MEMO

It's a fast-moving world

As this is written for June, it's a mere 10 days since we sent to press the special eight-page report on the Packaging Show which appeared (perhaps to your surprise, so soon after the show closed) in the May issue.

Now we're closing another issue of more than usual importance. Trends and events are moving at a dizzying pace in this packaging world today. As reporters and interpreters of these events, we must keep the pace.

It's important, therefore, that we all sit back occasionally and think about the really basic and fundamental changes in our world—to find the main channel of progress in which these hundreds of seemingly isolated developments eventually join.

One common channel is clearly distinguishable: *plastics.*

In the discussion from which this editorial grew, one of our younger editors said it clearly. "How," he asked, "did packaging ever manage to get along *without* plastics?"

A good question. Can you imagine any kind of protective wrap without a thermoplastic heat seal? Where would cans be without their plastic linings? Where would glass containers be without their plastic caps and cap liners? How would we get along today without plastic bottles and containers, without plastic films, without plastic coatings, without the plastic fittings that made the aerosol practical? Yet all of these things were new within the working careers of many men still active in the field—and most of them have risen to importance within the last 15 years.

No one could come away from the Packaging Show in April without being impressed with the dominance of plastics. This isn't new; it's been true for a half-dozen years.

But to those who looked closely it was apparent that the development of plastics in packaging has turned a most significant corner. Plastics are no longer regarded as interlopers; they are members of the family. The most noteworthy new things in plastics were to be found not, as a rule, in the booths of plastics companies, but in the exhibits of old-line suppliers of paper, paperboard, cellophane, cartons, cans and glass containers—all of whom are now embracing plastics, in their many forms, and turning them to exciting new advantage, either alone or in combination with the standard wide range of packaging materials.

For those who share our impressions from Chicago, it is important to note that the entire gamut of plastics, for the first time in two years, will be on display in New York, June 5 to 9, at the National Plastics Exposition. Based on the Packaging Show just past and the Plastics Show just coming up at the New York Coliseum, we have worked fast to set down, in this issue, a rather searching analysis of the present place of plastics in packaging. We commend the article to you. Page 95.

The Editors

Modern Packaging, Executive and Editorial Offices, 770 Lexington Ave., New York 21, N. Y. Teletype number: TWX-NY 1-3063. Cable address: "Breskinpub."

From Nashua's talent with paper and packaging . . .
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Nashua takes the "pamper problem" out of poly-wraps with new bread machine attachment

Poly-film can be a "problem-film" on bread wrapping machines. Sealing temperatures are critical. Heating elements need frequent replacement. Housekeeping can be a costly headache.

Nashua's remarkable new machine attachment solves these problems . . . makes it easy to run poly-film or conventional wraps interchangeably. Unique "protective covers" for sealing elements eliminate cleaning problems. Special, high-temperature plastic parts drastically cut down on replacements. And high-precision temperature controls assure trouble-free sealing.

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MODERN PACKAGING
JUNE 1961 Vol. 34 No. 10 / THE COMPLETE AUTHORITY OF PACKAGING

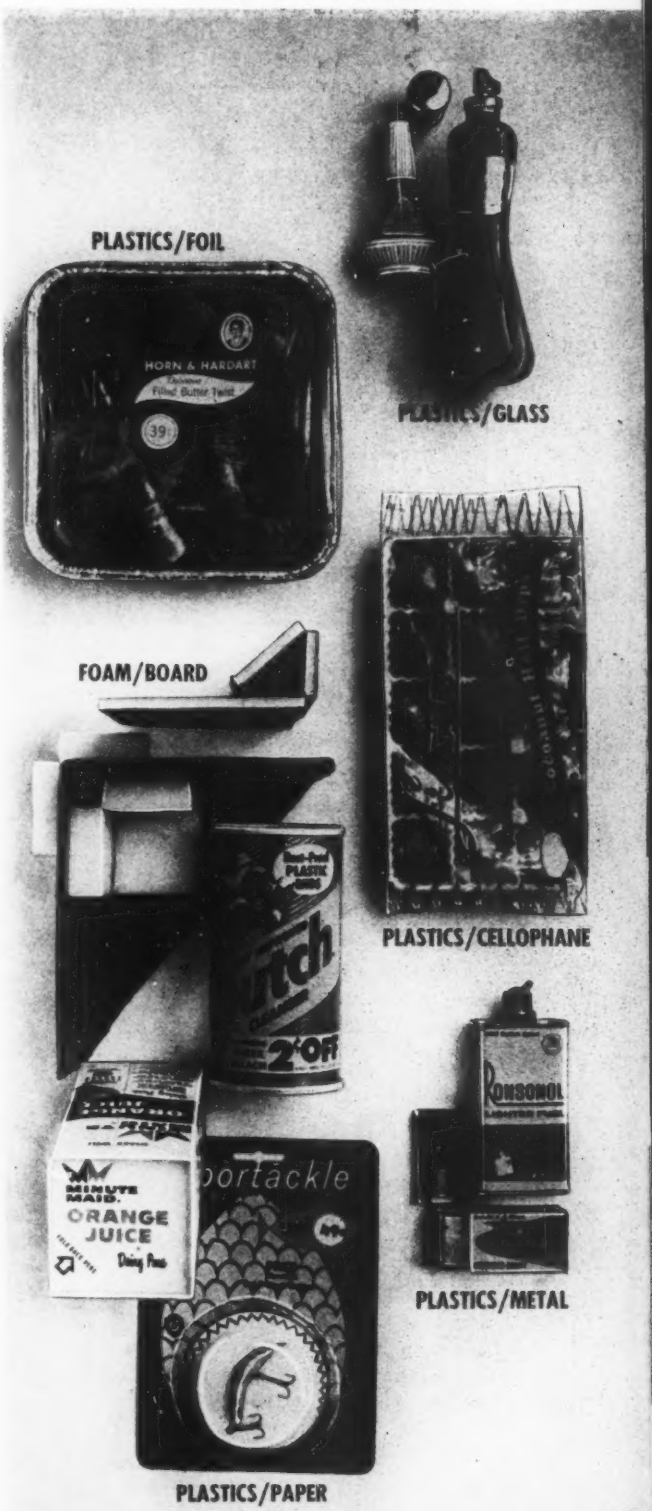
PLASTICS TODAY AND TOMORROW

They have penetrated so deeply into packaging, alone and combined, that it is difficult to imagine life without them. And this is only the beginning

Probably the greatest tribute that can be paid to packaging is to marvel at the progress it was able to make before plastics came along. A 20th-century phenomenon whose biggest advances have been made in the handful of years since World War II, plastics are now such an integral part of the broad packaging picture that it is well-nigh impossible to disassociate one from the other. And most authorities are agreed that the future of plastics in packaging will overshadow all that has gone before.

Latest available figures indicate that 10 to 15% of total annual plastics production is channeled into the $20-billion packaging market. This volume is sure to increase as new applications are uncovered and as new plastics formulations with packaging potential are developed—just as polypropylene and acetals are now beginning to make their impact.

The soaring importance of plastics to packaging has been underscored in every national packaging



How the plastics combine *with other packaging materials. Plastics/glass: upper right, nail-polish bottle with a molded polyethylene base; a plastic-coated glass aerosol. Plastics/foil: at upper left, baked-goods tray with shrink-on polyethylene cover. Foam/board: at center left, shipper wall of polystyrene foam between sheets of kraft board; resilient expanded-polyethylene corner pads. Plastics/cellophane: center right, multi-cell PVC candy tray in a cellophane bag. Plastics/metal: at lower right, lighter-fluid can with polyethylene dispenser spout; a polystyrene-and-metal razor-blade dispenser. Plastics/paper: lower left, blister-packed lure with polystyrene-foam platform, polyethylene-coated orange-juice carton; a fibre can for cleanser with rustproof polystyrene ends.*

Blow-molded bottles *have won 90% of the light-duty liquid-detergent field in less than two years. Now, blown high-density polyethylene containers, offering handling ease and shatterproofness, are making the same move among bleaches and other household chemicals.*

show in recent memory; this year's was no exception. No less important a showcase of ideas is The Society of the Plastics Industry's biennial Plastics Exposition, running June 5-9 at New York's Coliseum. Representing the one opportunity in two years to see the products of international plastics technology under one roof in this country, it is a must for all packagers who are using or are planning to use plastics materials or components—which, of course, means just about everyone.

With two big national shows turning the spotlight on plastics, an examination of the developments and continuing trends in this field as they affect packaging should be of interest to every producer of consumer or industrial products.

It is difficult to pinpoint any one trend in plastics for packaging as *most* significant, because big things are happening in films and extrusion coatings, in blow-molded bottles and drums, in aerosols and flexible tubes, in thermoforms, in closures and in foams. Each of these important areas will be discussed individually in the sections that follow, with the emphasis on developments that will have momentous impact on packaging in the months ahead.

But no discussion of plastics in packaging would be complete without first mentioning one of the great broad trends of the day: the increasing application of plastics *in combination with* such older established materials as metal, glass and paperboard. Whether in the form of dispensing closures for cans and bottles, rustproof ends for fibre-bodied cans, coatings for paperboard containers of all types, interior cushioning for shippers and product cartons, or as purely decorative elements, plastic components are adding new utility, new convenience, new beauty and new sales appeal to conventional containers for an increasingly broad range of products. It is a classic example of how plastics can build new values into standard packaging forms.

The picture is even more startling in certain areas in which all-plastic containers are taking over. The sweep of high-density-polyethylene bottles through the household liquid-detergent field is already history, after less than two years. Producers of paper milk containers are rapidly changing from wax coatings to polyethylene coatings—and in the midst of this big shift comes a prediction by National Dairy that all paper milk containers could be replaced

within 10 years by an all-plastic container. The disposable milk-container field alone represents a market of no less than 15-billion packages a year. A similar prospect is in sight for frozen foods.

Here are major developments in specific areas that document the great and growing importance of plastics to the packaging industry:

Thermoplastic films

This is truly the heyday of thermoplastic films in packaging. Consumer and industrial packagers have at their command a dazzling choice of films with specialized characteristics to suit almost any economic, performance and merchandising need.

Copolymers, blends, orientation and other techniques all are adding new properties of value to established films—making them variously tougher, better barrier materials, more machinable, boilable, shrinkable, water soluble, *ad infinitum*.

In the realm of polyolefins, infant polypropylene can lay claim to being the fastest-growing plastic ever produced. Already proved out in major bread-wrapping applications and with a dozen producers scrambling for position, this film is barely beginning to tap its great packaging potential.

With new developments in thermoplastic films literally tumbling into the market and with price curves trending downward, industry prognosticators are talking in terms of an increase of as much as 67% in total annual sales of transparent films by 1965. In the same span, polyethylene in packaging alone is expected to grow from a current annual volume of 350-million pounds to about 600-million pounds, according to *Modern Plastics*. Just about every producer is offering a half-dozen or more film-grade resins in low, medium and high density. Medium density is gaining ground rapidly for its clarity, sealability and machinability. A high-density polyethylene film with a polymer coating, soon to be introduced, may be the first thermoplastic film that is fully interchangeable with cellophane on high-speed packaging machinery.

Small wonder, in the face of these facts and forecasts, that cellophane has begun to get down to some serious infighting. At the AMA Packaging Show in April, the three major U. S. producers introduced high-yield cellophanes which have the effect of slashing the price of this material while keeping it at the top of the list of favored packaging films. Cellophane's competition, at least, will operate to keep the prices of plastic films down.

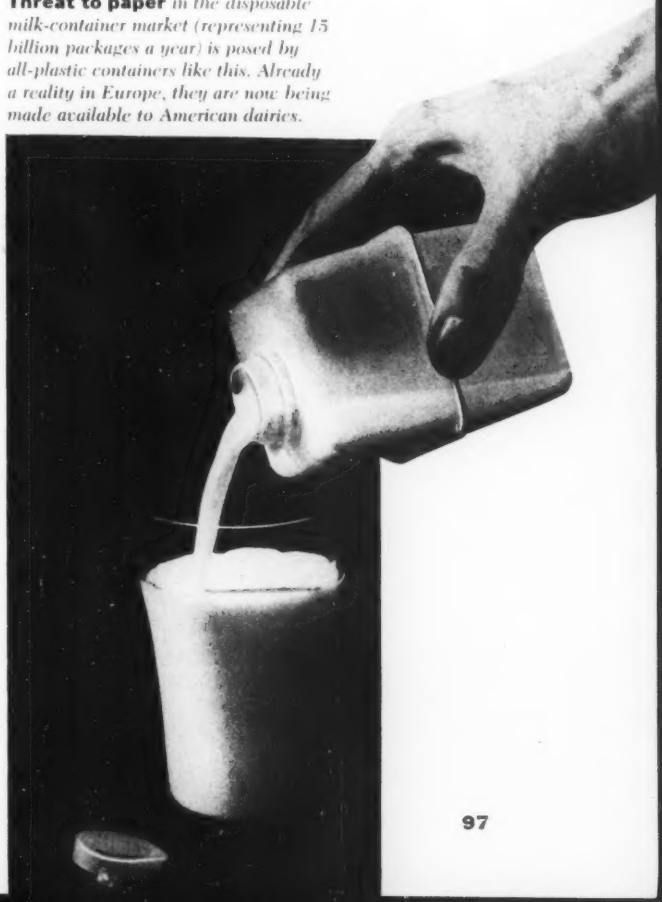
Development work by suppliers is awakening new interest in shrinkable and water-soluble films.

No less than eight oriented heat-shrink films (various polyethylenes, polyvinylidene chlorides, polypropylenes, polystyrenes, polyesters and poly-

PHOTO COURTESY DU PONT.

Thermoformed tray packages, *closed with film or sheet-plastic lid, are on the threshold of wide application in the frozen-foods field. Pointing to lowering resin prices and the need for more package excitement in this competitive market, one food expert predicts that the plastic tray soon will replace the present standard overwrapped carton pack.*

Threat to paper *in the disposable milk-container market (representing 15 billion packages a year) is posed by all-plastic containers like this. Already a reality in Europe, they are now being made available to American dairies.*



vinyl chlorides) are now available with sufficient processability to serve, in combination with new or improved machinery, as a low-cost means of wrapping single items or banding multiple units with no loss of product or package visibility.

One northeastern converter states flatly that heat-shrink films will eventually take over the entire market for in-store wrapped produce. Buttressing this optimistic forecast, a major producer of oriented PVC (Reynolds Metals) reports that consumption of shrinkable-plastic films for packaging could quadruple within a year, to 25-million pounds.

Water-soluble film for pouch packaging, which appears ready for volume use by the nation's giant dry-detergent manufacturers, likely will gain new impetus from the introduction of an extruded polyethylene oxide (Visking). Basic economy is a promise because the extruded film can be produced at higher speed than polyvinyl alcohol or methyl cellulose, which are cast from water solutions. Soluble in a water-temperature range of 35 to 175 deg. F., the film also is reported to have good sealing and printing properties and long shelf life.

Elsewhere, such accelerating applications as heavy-wall polyethylene shipping bags, boil-in-the-bag food packaging, and pouching, bagging and overwrapping of a limitless variety of products provide the impetus that keeps the lights burning late in suppliers' development laboratories.

Plastics coatings

A dramatic illustration of the burgeoning importance of plastics in packaging is provided by the plastic-coating business. Just a decade ago, two resin suppliers and three extrusion-coating firms filled the needs of the packaging field for coatings. Now the number of these companies has risen to 13 and 50, respectively. The trend to polyethylene-coated milk containers and to single-wall barrier cartons of all types, with attendant production economies, is rated a sure bet to boom the coating industry from a present volume of 55-million pounds to more than 100-million pounds within the next two-year period.

Polyethylene has played the major role in development of the single-wall package, encompassing extrusion-coated paper and paperboard, foil and films. While this plastic doubtless will continue its dominance in this area, it is now being challenged by water emulsions of polyvinylidene chloride and possibly also by polypropylene.

The growth of extrusion coatings was detailed in these pages last month in the article, "Extrusion Coatings on the Rise," p. 87.

But now to be reckoned with are the new water-emulsion coatings made of polyvinylidene chloride (saran). These coatings provide up to five times the WVT barrier of an equivalent extrusion coating of polyethylene. Even though the thinnest continuous coating that has so far been applied with these new materials is 9 lbs. per ream (about 1/3 mil), the coating is slightly lower in cost than a 1-mil extrusion coating of polyethylene.

The water-emulsion coating is priced at 45 cents per dry pound and can be run at 80 ft. per minute on new curtain coaters—devices which employ a falling film of resin to coat pre-cut and scored blanks for cartons. This speed is slightly faster than most current extrusion-coating operations and the equipment costs only 1/10 as much as extrusion-coating machinery. A very rapid growth in this particular field can definitely be expected.

Blow-molded containers

Perhaps in no other single area of packaging has plastics made a greater recent impact than in containers for household liquids, including detergents.

Trade estimates on the future growth of blow-molded containers vary. But the significant point is that all forecasts call for an explosion in volume. One forecast is that production of high-density polyethylene bottles alone (as distinct from the established low-density "squeeze" bottle) will mount to three-billion units by 1965.

Another indication of the boom is the rapid recent growth of blow-molding facilities. Right now, there are some 150 companies in the U. S. turning out blown bottles. Many established firms are expanding into new and larger plants. Every major glass-container maker is now blowing polyethylene or preparing to do so and the two largest can companies are well established in it.

Whatever the future, consumption of blown polyethylene containers of all types is runing at a current rate of nearly a billion units a year, as against 515 million in 1959. Most of the recent growth in the high-density type is accounted for by light-duty liquid detergents, where this bottle has quickly taken 90% of the market. Now the bottle is making the same sort of move in household bleaches.

But detergents and bleaches are only part of the picture. Here or coming soon are high-density applications for fabric softeners, polishes, ammonia, starches, water-base waxes, outboard motor oil, shampoo, pharmaceuticals and other liquids. The food industry also is said to be mulling the potential application of plastic bottles in that field.

And that's not all. There is now a discernable trend toward blown, high-density industrial containers in capacities up to 80 gallons. In liner or unsupported-drum form, these containers are increasingly used in applications where chemical and

corrosion resistance are essential requirements. Weight-per-unit savings in these jumbo plastic carriers, compared with metal and glass, is something for cost-conscious packagers to think about.

Whether for consumer or industrial use, a contributing factor toward volume acceptance of plastic bottles and drums is the wealth of high-speed filling machinery that is now available.

A new merchandising aspect, which may well expand the market, is a mechanical development which is reported to permit production of multicolor bottles in blown shapes (Hercules Powder).

While most of the polyethylene resin used for detergent bottles is in the 0.948-0.950 density range, many experts believe that the extreme stress-crack-prevention properties inherent in these resins are not needed in containers for products with less powerful chemicals (bleaches, for instance). One supplier (Union Carbide) has come up with an even higher-density 0.960 polyethylene compound for use where high stress-crack resistance is not critical. It is reported to produce a stiffer, thinner-wall bottle at lower cost. Considering that liquid-bleach containers may run to gallon size or larger, the cost differential could be significant.

Plastics materials other than the polyethylenes may also become important.

Medium-impact polystyrene is a good possibility. Shulton, Inc., already has adopted a rigid polystyrene blown bottle for men's talc, choosing the material for its design freedom and resistance to chemicals, as well as for its break resistance.

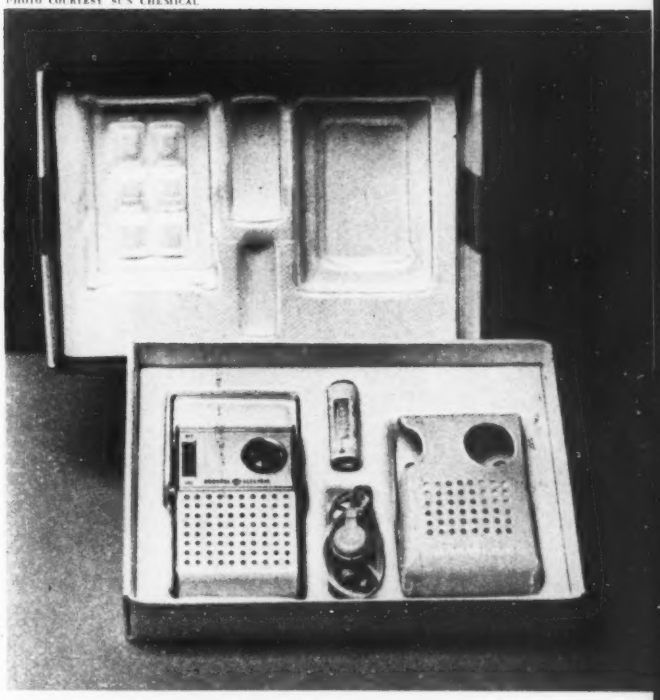
Blow-molded acrylonitrile butadiene styrene is said to be ready for the market; one company (Monsanto) exhibited experimental blown containers of this material at the packaging show, citing such promising factors for them as high heat resistance, good tensile strength, high impact resistance, as well as striking color effect and low cost.

Plastics closures

Building largely on improved high-impact polystyrene resins and lower resin molding costs, the injection-molded thermoplastic closure is carving out a lion's share of the closure market. But suppliers generally agree that there will always be a comfortable place in the glass-container field for the sturdy compression-molded lined thermosets (phenolic and urea) that combine light weight, alcohol resistance and good surface appearance.

Waiting in the wings, however, is what most authorities consider the hottest prospect yet—the linerless polypropylene cap. Combining the properties of stiffness, crack resistance and inertness with ease of molding in varied shapes and colors—all without the added material and production costs

PHOTO COURTESY SUN CHEMICAL



Extruded polystyrene foam *in web form, boasting attractive appearance, good cushioning and insulative properties, appears to have a bright future. In one of the first applications, GE is using the material to protect and display a transistor radio in a set-up box.*

Acetal aerosols *now challenge metal and glass. Moldability in unusual shapes makes the all-plastic aerosol especially suitable for colognes, perfumes.*

PHOTO COURTESY DU PONT.

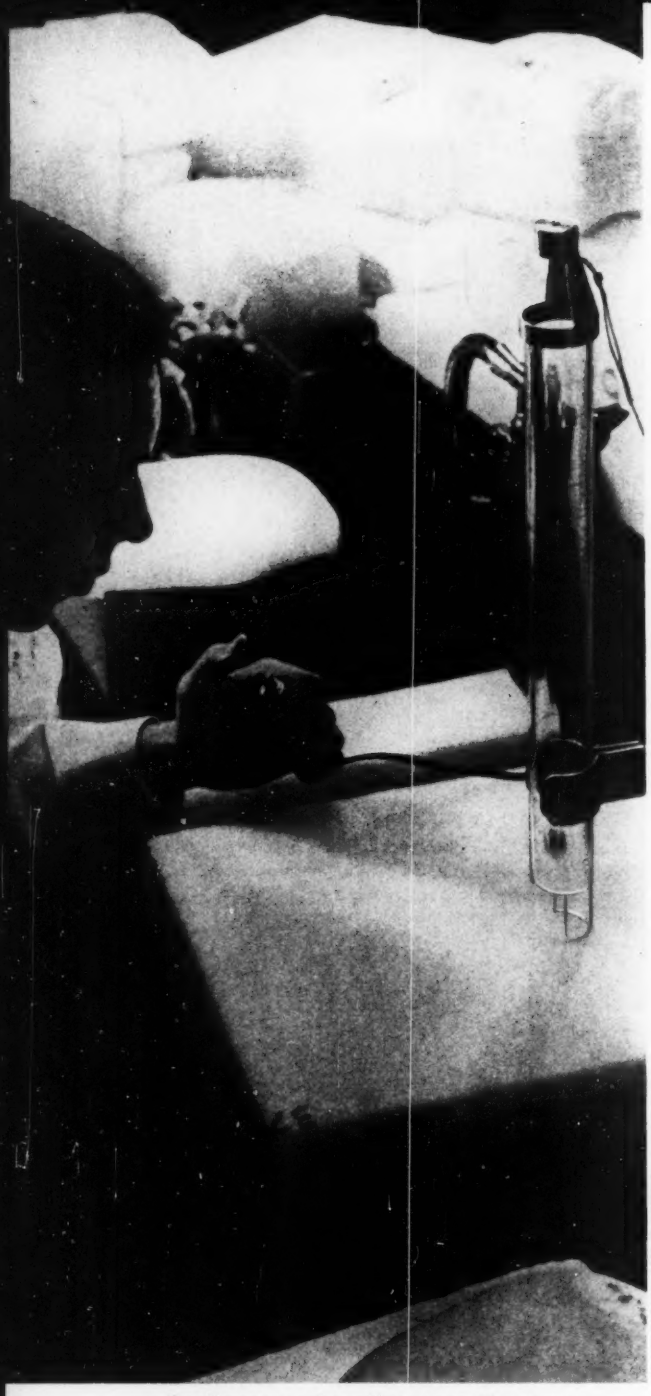


PHOTO COURTESY OLIN MATHIESON.

Continuous, exhaustive research *maintains a steady stream of new and often revolutionary plastics developments for virtually every area of consumer and industrial packaging—with the biggest advances yet to come. Shown here is a research scientist measuring the resiliency of an experimental urethane foam on a dropping-ball rebound tester.*

which liners entail—polypropylene represents perhaps the best hope for a truly effective and economical linerless cap for broad-range applications. At least one supplier reports that development work with such a closure has been completed.

Polyethylene closures, which often do not require the use of a liner, dominate the blown-plastic bottle market. Now coming to the fore are molded-in dispensing refinements, such as the "snip-off" tip on the polyethylene closure for Liquid Lux. The housewife merely scissors off the closure tip to convert the bottle into a convenient dispensing container without ever having to unscrew the cap.

Thermoforming

Paced by challenging new materials and moving strongly into really big-volume markets, the thermoforms (carded skin and blister packs and formed all-plastic containers) are a cinch to set new production records this year, as in each of the past few years. According to the *Modern Packaging Encyclopedia Issue*, the dollar value of thermoforms rose from $23 million in 1957 to $60 million in 1959. While 1960 figures are incomplete, they appear to surpass the 1959 total by a comfortable margin.

Long dominated by acetate and butyrate, the field of thermoforming is being opened wide by such relative newcomers as polyethylene, polystyrene (including foamed-polystyrene sheet) polyvinyl chloride and polypropylene. A late starter with lively potential is unplasticized, clear, calendered vinyl sheet. Made from low-cost, general-purpose resin, it sells for about 71 cents per pound and is available in thicknesses of from 5 to 30 mils.

An especially promising future awaits the formed PVC trays designed with multiple cavities to enhance and improve the packaging of produce, candies, cookies and even industrial parts. These lightweight plastic trays currently are winning big-name applications in many product areas (notably the boxed-candy field) not only because of decorative appeal and low cost, but because they simplify and speed up filling operations.

Carded skin and blister packs. Both skin and blister packaging are surging, based on improvements in techniques, equipment and materials. The choice usually is between in-plant operation and a contract-packaging job. Skin-packaging equipment is relatively inexpensive and is suited to in-plant operation, while automatic blister-packaging machines that form, fill and seal are costly and require large production runs of a standard package to pay off. However, semi-automatic blister machines boasting flexibility and reasonable price are coming into increased use. These units enable the packager to buy formed blisters at an economical figure and

complete the packaging operation in his own plant.

Skin packaging has an advantage in its ability to hold relatively heavy objects (such as ceramics and other bulky and fragile items) in place on a card or board. Now a new method of treating polyethylene film enables it to hold even heavier objects firmly in place on uncoated board.

Formed plastic containers. The tray-type thermoformed plastic container, closed with film or a sheet-plastic lid, is a good prospect for frozen and other foods. Birds Eye is test marketing such a package for its standard frozen vegetables.

Experts point to lowering plastics prices as an indication that this type of package may soon be less costly than paperboard. One frozen-foods authority has predicted that within five years it will replace the standard overwrapped-carton pack. Radical as this prediction may sound, there is a real need for more exciting packages to surmount the keen competition in the frozen-food field and thermoforms appear to be the most likely to fill the bill.

Polypropylene could add a functional property not possessed by any other plastic for thermoforming—heat resistance—which would enable trays of this plastic to be popped into the oven or into boiling water to heat the contents. However, polypropylene at present must be modified for greater strength for use in below-zero temperatures.

Another very real prospect among thermoforms is the all-plastic sheet bottle or container, which is regarded as having the potential to become a serious competitor to bottles, cans and liquid-tight paper containers in certain fields as big as milk and motor oil. It is the basis of the prediction that the paper milk container may be a thing of the past by 1971. Such containers are in commercial use overseas. In this country, one supplier (Mojonnier) is now offering an all-plastic milk package—in half-pint, 1- and 2-gal. sizes—vacuum formed in two sections from rubber-modified high-impact polystyrene.

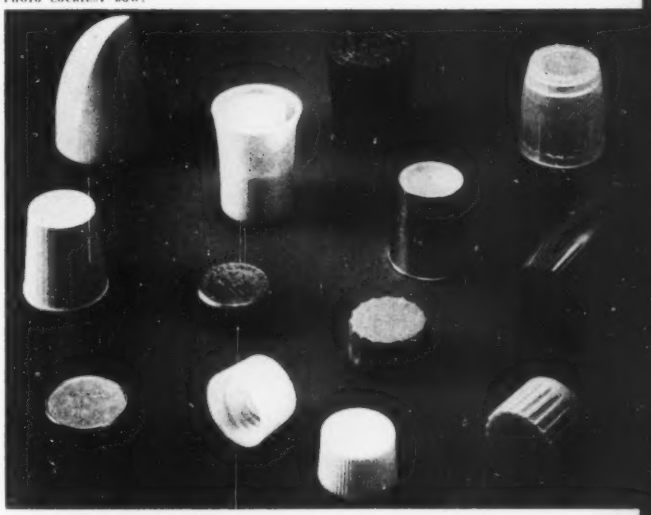
The formed container also has a great potential in non-food fields, where light protection and big-volume production are not critical requirements. However, before this type of package can make great headway in foods, high-speed form-fill-seal equipment must be developed that is specifically adapted to these products and which keeps costs at a reasonable level. There are encouraging signs to indicate that such machinery is on the way.

Plastics in aerosols

Metal and plastic-coated-glass aerosol containers face a challenger in the new acetal resins. This material is extraordinarily inert to most chemicals; therefore, it is suitable not only for use with aerosol propellants, but for a wide range of products adaptable to spray dispensing, including such high-volume items as hair sprays, antiperspirants, shampoos, as well as colognes and perfumes.

The first acetal aerosol, an injection-molded two-color container, was adopted last year by Avon Products for a spray-mist cologne. Other applications are reported on the way. Depending on shape, styling, size and quantity, molded acetal aerosols, it is said, can be produced at costs competitive with metal or vinyl-coated glass. The resin supplier for the Avon package (Du Pont) says that in smaller purse sizes, acetal aerosols may be *less* costly than comparable containers of other materials.

PHOTO COURTESY DOW.



Thermoplastic closures, *offering design freedom and rainbow colors, are carving out a huge share of the market. Lower resin and injection-molding costs promise an even more glittering future.*

Increased availablity and declining price of the resin also indicate wider acceptance of plastic aerosols. Another supplier (Celanese) is now offering acetal. Price of the resin (Du Pont) has recently been cut to 65 cents per pound—15 cents less than it was last year and down 30 cents from the introductory price of the resin in 1959.

Plastics squeeze tubes

A 50% growth in commercial applications in less than two years is the indication of things to come in plastic squeeze-to-use tubes. A careful rundown of end uses reveals more than 1,100 plastic-tubed products on the market today, compared with about 750 less than two years ago. [*Continued on page 218*]

INDUSTRIAL

The Fafnir Bearing Co., New Britain, Conn., is an industrial firm which is reaping the fruits of a thoroughgoing repackaging program predicated on sound consumer-packaging philosophies. Since the adoption of strong new "sales-appealing" folding cartons for a broad variety of ball bearings used as precision mechanical components, Fafnir reports:

- Substantially improved package performance at lower over-all cost, documented by a 50% reduction in rejects and the elimination of wrap-around tape seals for individual cartons.
- Greater product acceptance among distributors and customer companies, attributed to a vivid contemporary surface design that suggests high product quality and strengthens the Fafnir brand image.

This company's experience exemplifies the growing awareness among industrial marketers of the sales power of upgraded packaging. As such, it represents a lesson of considerable value to every industrial-goods producer still operating under the cracker-barrel theory that a container's sole purpose is to carry its contents safely to point of use.

Fafnir (4,900 employees) made the decision to spruce up its packaging several years ago. And with good reason. The company, which produces some 10,000 different types of ball-bearing products, had expanded its line to include ultra-precision bearings for use in atomic submarines, supersonic guided missiles, aircraft instruments and the like. Management felt that its then-current inventory of folding cartons failed, both physically and visually, to project the image of top product quality.

The simple tuck-closure cartons in use at that time were made of kraft-backed chipboard and had to be sealed by hand with a length of tape to prevent the contents (one or more pre-wrapped bearings) from working out of the package during shipment or other handling. Even so, says the company, the rejects due to torn or otherwise damaged cartons reached the wasteful rate of 2% of production.

Carton design was equally distressing, Fafnir reports. It consisted of an outmoded clutter of panel borders and excessive copy in several clashing type styles. Little open space was available, making it difficult to imprint coded data without overlapping and partially obliterating the carton copy. Finally,

Forceful identity *has been achieved in Fafnir Bearing Co.'s program of carton revision. Block-lettered brand name—printed in brilliant red against a contrasting green background—is positioned in the upper half of the facing panel to facilitate code imprinting and to prevent obliteration of carton copy.*

the design problem was aggravated by the use of inferior red and green printing inks that faded quickly on exposure to light. Over-all, the cartons presented a drab and shelf-worn appearance inconsistent with the modernity of the products.

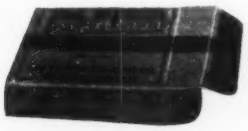
To develop the necessary improvements, Fafnir created an internal task force under the direction of packaging engineer A. E. Anderson. In just one year after Mr. Anderson presented his committee's package-revision recommendations (including a program for overhauling of the corrugated shipping containers as well), the company had its new look.

The task force first tackled the problem of developing a basic product carton that would be strong enough to stand up under the rigors of domestic and export shipment without relying on tape—which was time consuming and costly to apply and which did little to enhance the package's esthetic appeal. After months of testing, the committee developed a carton made of stiff white patent-coated paperboard and featuring a special locking tuck-flap closure that eliminates the need for tape sealing. Seven variations of basic carton construction and four different thicknesses of paperboard now are required to accommodate the packager's myriad bearing products.

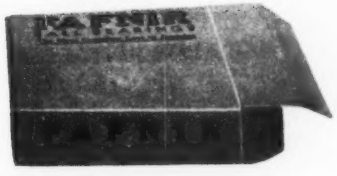
The next project: to develop a package design that would be instantly recognizable and modern in appearance. Mr. Anderson points out that this was a particularly critical phase of the repackaging

With a bright and sturdy new locking-closure carton that projects an image of high product quality and cuts rejects 50%, Fafnir shows how upgraded packaging can sell bearings as well as soap

SHELF APPEAL

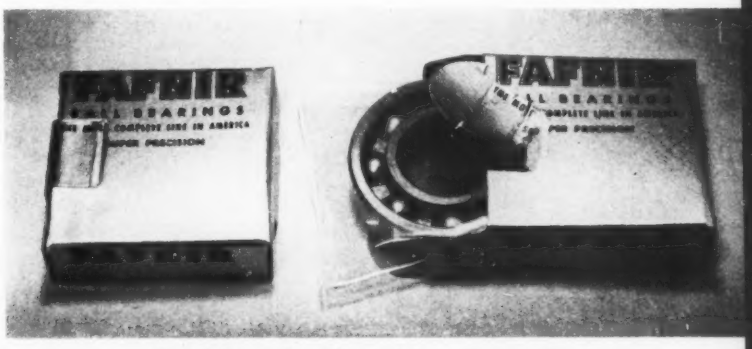


OLD



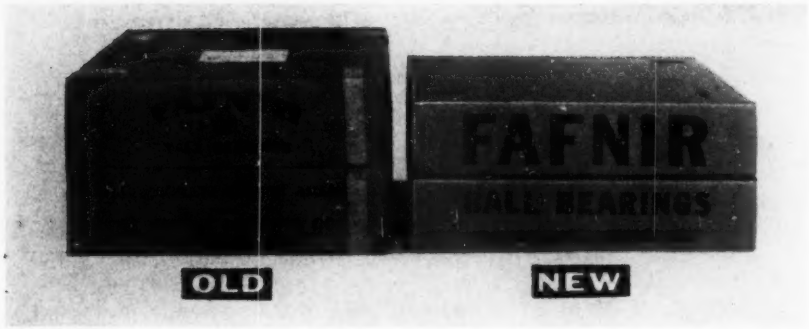
INTERMEDIATE

NEW



Special construction *and design features identify Fafnir's "super precision" line of ball bearings for especially critical applications. Carton is printed in high-gloss red and gold inks to differentiate it from the standard line. The tamperproof tuck-closure must be destroyed to open the package. All bearings also are pre-packaged in barrier materials.*

Evolution *of Fafnir cartons is shown here. Old and intermediate styles both had simple tuck-style closure flaps that required tape seal to keep the product in the carton. Vivid new carton has a locking flap that does away with tape sealing.*



Contrast *of old and new shows how the basic redesign has also been carried over to shipping containers, making them virtual traveling billboards. Note guide lines printed on top of the new shipper, which prevent copy from being obscured by gummed tape or steel strapping.*

program. "It is through the artwork on the carton," he says, "that the company receives its greatest exposure at the moment it counts most: when the product is about to be used."

In the surface redesign, extraneous copy and old-fashioned black panel borders have been swept away. On all new cartons, pre-printed identification on top and side panels consists simply of the Fafnir name and brief product information, in legible block lettering. The brand name, which is printed in a brilliant red against a contrasting green background, gains an additional measure of visibility via a white outline around each letter.

To afford ample space for product-code imprinting, copy is confined to the upper one-third of the carton's top panel and the upper half of its front-facing panel. Overprinting in the automatic imprinting operation no longer presents a production problem, according to Mr. Anderson.

Indicative of the importance which Fafnir attaches to carton-surface design is the meticulous care with which the task force worked up new color specifications. Extensive ink-rub and fade tests were conducted before the committee selected its red and green printing inks, which are reported to retain their color strength after indefinite shelf life or prolonged exposure to direct light. In order to maintain an undeviating color appearance on all cartons, the task force set up standards whereby ink shades and press pressure are changed each time a different thickness of paperboard is run. Thus, uniform color is achieved, regardless of the weight of carton stock.

The basic carton—with variations in size to accommodate different sizes or units of bearings—is used to package Fafnir's entire line of regular bearings. With a few minor yet dramatic differences, the same carton gives extra appeal and protection to the new line of "super precision" ball bearings.

These distinguishing characteristics are: a high-gloss gold and red surface design and a tamper-proof tuck closure which requires the user to destroy the carton in order to remove the bearing. By making it impossible to open the carton without destroying it, Mr. Anderson points out, the bearing is protected against the effects of dust and moisture until the moment of installation.

Additional protection for every bearing in Fafnir's product line is provided by individual pre-wraps. Depending on the type of protection required, the pre-wraps may be greaseproof paper, aluminum foil, VCI-treated paper, polyethylene or other barrier material. Certain bearings are given extra protection by individual skin packs, multiple blister packs and rigid plastic vials.

The task force also has upgraded the telescoping-style corrugated shipping containers for Fafnir bearings. Printing on the sturdy shippers follows as closely as possible the coloration and lettering developed for individual cartons. The Fafnir name has been given new prominence, extending two-thirds the length of the front panel and half its depth. Guide lines printed on top of the container prevent copy from being obscured by gummed tape or steel strapping.

Fafnir reports that its "consumer approach" to industrial packaging is paying handsome dividends. Not only have the stronger paperboard cartons cut the reject rate to 1%, says the packager, but the bright new surface design also has won increased customer attention (and resultant higher sales) for the company's entire product line.

SUPPLIES AND SERVICES: Cartons by Robertson Paper Box Co., Montville, Conn. Shipping containers by Star Corrugated Box Co., 51-15 Grand Ave., Maspeth, N. Y.

Blister-carded greetings

Economical in-plant operation using low-cost oriented polystyrene from a web permits American Paper Specialty to market profitably valentines costing less than 2 cents each

Recent machinery developments appear to be opening up a whole new phase for blister packaging. In-plant forming machines capable of handling low-cost oriented polystyrene sheet—as well as cellulose acetate and butyrate—now put the sales appeal of blister packaging within reach of even the most inexpensive merchandise.

Oriented polystyrene apparently works well where strength is not a big consideration and it appears especially suited to the stationery field.

Such products as greeting cards, tags and seals, note paper and other related items require low cost and clarity in their blister packaging. In addition to these qualities, oriented polystyrene's strength is quite adequate for such applications.

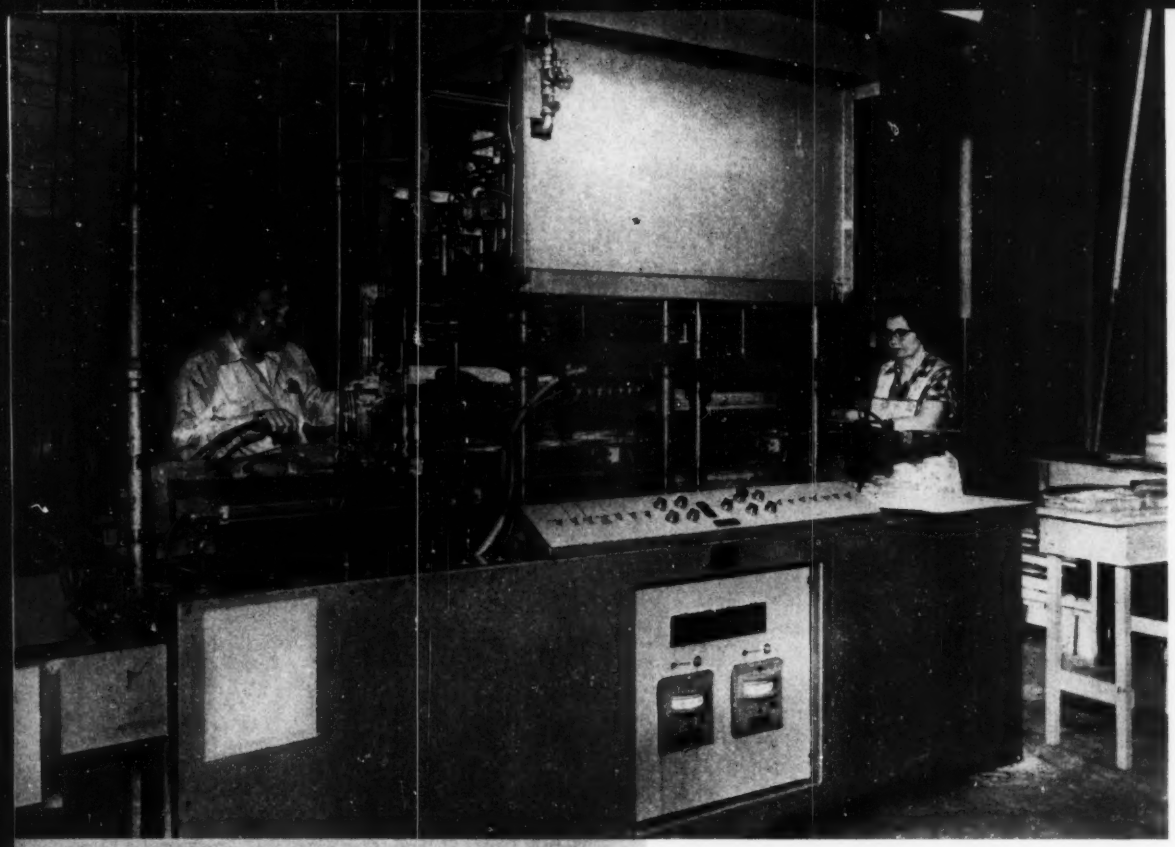
One of the first important paper-goods producers to realize the potential of greeting cards in blisters is the American Paper Specialty Co., Chicago. Although it has just recently installed its own blister-forming equipment, APS has completed two highly successful selling seasons for blister-packaged valentine assortments. In 1960, when blisters were first adopted for a portion of its valentine line, sales soared 10 times over the 1959 total presented in cellophane-overwrapped paperboard trays. In 1961 sales have continued to rise.

APS first switched to blister packs for two compelling reasons: (1) breakage of the previous conventional film overwraps was excessively high and (2) variety-store operators, aware of the pulling power of blister packaging in other product lines, were requesting blister-packed greeting cards.

Blisters cannot be considered luxury packaging in most product lines. Yet it should be kept in mind that APS's average valentine assortment retails for only 59 cents—about 1.6 cents per card. With a product priced this low, packaging costs must be scrutinized carefully and changes made with caution. APS found that blisters as large as those needed would double its packaging costs. However, the demand and the physical advantages seemed powerful enough to offset this added cost of blisters. Results have borne out this analysis.

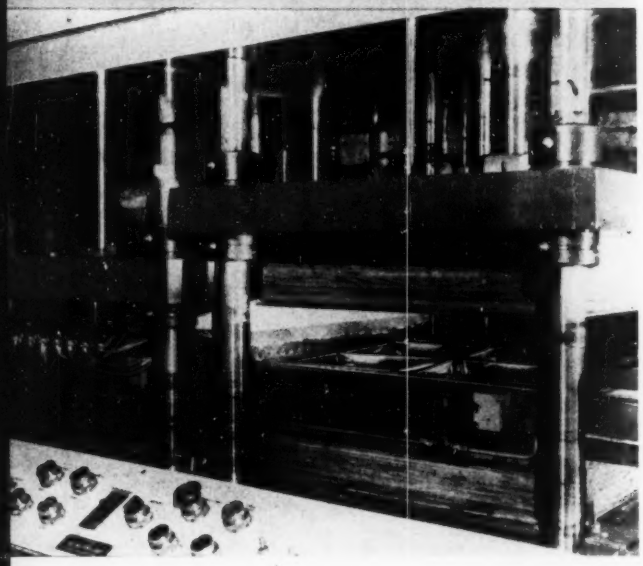
The first season, APS purchased prefabricated

Eye appeal, *adequate protection are afforded American Paper Specialty's valentine assortments by new packaging using oriented polystyrene blisters heat sealed to pyroxylin-coated cards. Note heart design molded into the blister.*



Blister machine *combines forming and trimming presses on one frame. Oriented polystyrene web feeds from left through dancer roll, is held by gripper mechanism until after trimming. Severed blisters are stacked on table (right).*

Forming and trimming presses *are synchronized to operate in sequence. Multiple air nozzles (left) for film blowing on the forming press permit versatility of size without complicated change-over.*



acetate blisters. This season, blister costs have been cut 20% due to the lower cost of oriented polystyrene run on its own vacuum-pressure forming machine at the Chicago plant where valentines are packed. Sales gains appear to have cancelled out the remainder of the packaging cost increase.

Versatility of machine

The former, used in conjunction with two unusual collating machines plus semi-automatic heat sealers, provides a high degree of packaging automation for a varied product line. APS produces blisters in 10 sizes to house hundreds of valentine designs. Some of the larger blisters for valentines carry molded-in impressions of hearts or cupids for added sales appeal. Blisters range in size from 2 by 3 in. to 8 by 10 in. and are formed in multiples — six of the largest sizes and up to 30 of the smallest size are produced in one shot. Since the machine is capable of eight complete cycles per minute, unit output ranges from 48 to 240 per minute. While APS's deepest blister is 1½ in., the machine is capable of draws to 5 inches.

After careful study of blister-forming machines available, APS engineers chose its machine because of the following features:

1. A unique gripper mechanism, which holds the material firmly at all times, makes it adaptable to

oriented polystyrene (although it may also be used for most other thermoplastics).

2. Adjacent forming and trimming operations are accomplished in immediate succession.

3. Since the gripper mechanism does not release the web until blisters have been trimmed, blister flanges are uniform regardless of size.

4. The machine can produce a wide range of blister sizes at relatively low tooling cost and with minimal change-over; a low-profile conveyor system permits the use of dies smaller than the machine's 22-by-24-in. forming area without any adjustment of the heated platen. In many other types of pressure-forming equipment both the platen and the die are said to require size change-over.

5. Size versatility is further aided by an interesting manifold air system. The following section has multiple air passages for blowing of the sheet, which may be readily activated or blanked, depending on the specific forming die being used.

How equipment operates

The web of oriented polystyrene sheet—in gauges of 7.5 to 10 mils, depending on blister size—is fed into the machine by a pneumatically powered dancer roll which feeds only between forming cycles. Thus, the required length of sheet may be unwound without disturbing the tension of the web already in the forming section.

As the web approaches the forming section, edges are captured by grippers mounted on a low-profile reciprocating conveyor. This gripper mechanism reciprocates as little as 6 in. or as much as 24 in., according to die size. It moves forward and down, drawing the web smoothly over the multiple cavities of the forming die. The heated platen descends on the die. A vacuum is pulled on the platen, assisted by jets of air from underneath, and the polystyrene is drawn up against the platen and warmed. Then this action is reversed. A vacuum is drawn from beneath the die. This, coupled with air blasts downward from the platen, conforms the softened plastic to the die cavities, where it remains for approximately 5 seconds.

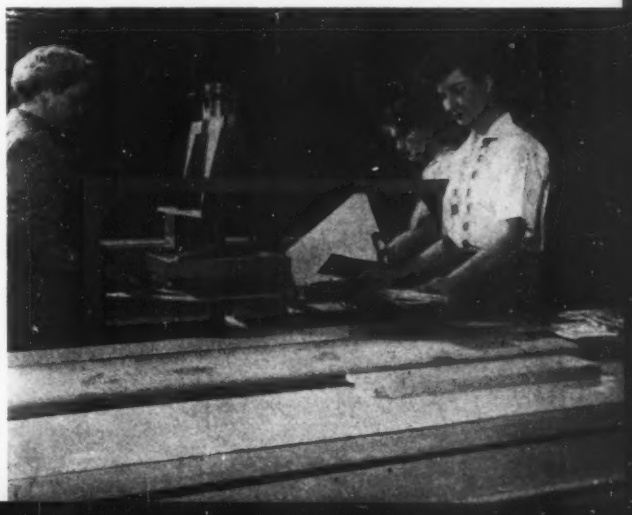
The platen lifts and the formed web, still held by the grippers, is moved up out of the former and then down again over the adjacent trimming die. Cavities of the trimming die are the exact size and shape of those in the forming section; steel rule dies around the periphery of each cavity substitute for the former's heat-and-pressure operations. Meanwhile, new material is drawn over the forming die as the preceding formed web of material is seated in the trimming press and the platen then closes for the 3-sec. trimming cycle.

Forming and trimming presses open and close almost simultaneously. But timing is acutely regulated to allow for the slightly longer cycle of the forming section and to assure that the web is held at all times by either the gripper mechanism or by a closed press. Each press is powered by its own separate hydraulic system. Otherwise the machine is pneumatic except for [*Continued on page 228*]

SUPPLIES AND SERVICES: Modified Model 20-20 pressure former and trimmer by Atlas Vac-Machine, 1732 Hudson Ave., Rochester 17, using oriented polystyrene by Plax, P.O. Box 1019, Hartford, Conn. Semi-automatic heat sealers by Erdco Engineering, Addison, Ill., and Panoramic Package Co., Janesville, Wis.

Collators, *36 ft. long, dispense up to 25 different card designs at rate of 50 assortments per minute. Moving belts behind collators convey cards to operators who load the assortments into pre-formed blisters.*

Hand-filled blisters *are conveyed from right to this heat sealer. Blisters are hand inserted in nests on rotary table, carded, automatically sealed and packed into shippers.*



FOAM-IN-PLACE FOR

Royal McBee tops its noteworthy all-foam package with an expanded-polyurethane-and-corrugated carton that further cuts the cost of protecting delicate office machines

No longer can a packager of expensive precision machines or instruments clap his product into a carton or crate he merely *believes* is heavy enough to protect the product. Economics now dictate careful engineering of such shippers with primary concern for the amount of protection provided per dollar of cost. This new attitude is giving increased impetus to the use of foam plastics in industrial packaging as well as in the packaging of many different types of consumer products.

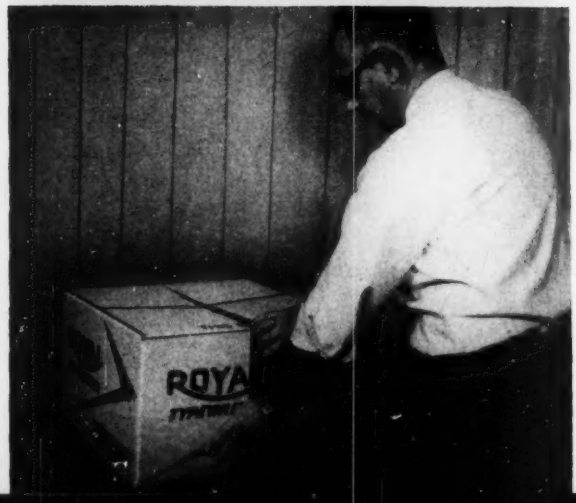
One of the most significant jobs of such structural shipper planning is a three-year repackaging project for typewriters conducted by the Royal McBee Corp., Hartford (12,000 employees, $104,000,000 sales), which has resulted in a new container combining corrugated board with foam-in-place polyurethane plastic in a strong—but light and economical—shipper that virtually eliminates in-transit breakage of the machine.

In its packaging over the past 20 years, Royal McBee has run the gamut from wooden cases to corrugated structures and then to an all-plastic prefabricated polystyrene-foam "cocoon" whose novelty intrigued the packaging field two years ago.* This package was a great success and was highly acceptable to customers. But its cost, though lower than for previous shippers, was more than Royal McBee wished to continue paying. Costs were further reduced in 1960, when the company modified its use of foam plastics by adopting a corrugated case with molded polystyrene-foam inserts at either end that effectively cradled the machine and reduced the amount of plastic in the package.

Now the newest container, which permits mechanized assembly, achieves an even lower cost—one-quarter that of the wooden case and one-half the cost of the all-plastic package—by means of an ingenious bulkhead structure of corrugated board that further minimizes the amount of plastic needed to provide a shockproof suspension system. The technique is applicable to a wide range of delicate consumer and industrial products and is an important and practical solution to the increasing cost of packaging and shipping such products.

It should be noted that these new packages also

*See "The Challenges Ahead," MODERN PACKAGING, Jan., 1959, p. 77.



Conventional exterior *of white-lined, blueprinted shipping container for Royal McBee's line of typewriters conceals an inner structure of foam and corrugated that is the secret of new protective strength. The case is opened easily by cutting around three sides and spreading it open like a book.*

TYPEWRITERS

Inner pattern *of corrugated and foam suspension system is revealed when the shipping case is opened. The typewriter, which is covered by a polyethylene bag to prevent foam adhesion, nests in the two die-cut corrugated panels seen inside the case at left and right. These supports hold the machine clear of the shipper in all planes. The white polyurethane foam can be seen in the die-cut areas.*

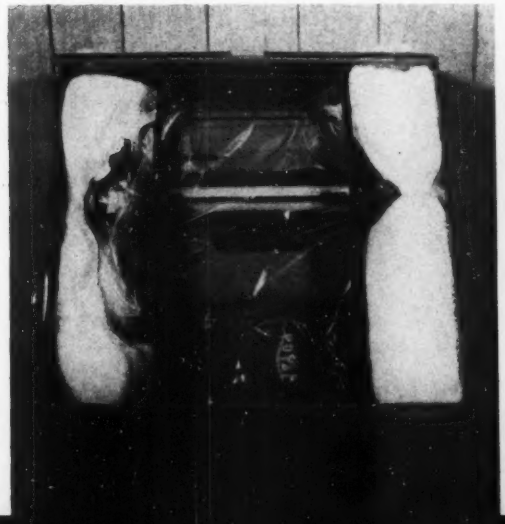
reflect a change in Royal McBee's distribution system which was first effected with the all-foam container. In the old-style wooden and corrugated packages, typewriters were shipped to district sales offices for unpacking and cleaning because the machines and their moving parts were secured with tapes and wires. Royal McBee wanted to ship typewriters directly to customers in simple packages that, when opened, revealed machines ready to use.

The latest package admirably meets these qualifications. It is being used first for a standard typewriter with an 11-in. carriage, but will soon be extended to all others. Eventually, even specialized data-processing machines will be so packaged.

The basic external container is a rectangular glue-flap case made from 200-lb.-test corrugated board. Eight case sizes will accommodate the company's entire line of typewriters. The machine is enclosed in a 3-mil polyethylene bag to protect it from dust and prevent the foam plastic from adhering to the product. Next, two sheets of 275-lb.-test corrugated, die cut to the vertical silhouette of the typewriter, are slipped over the sides of the machine to a distance of about 2 in. These partitions extend from the typewriter feet up [*Continued on page 248*]

SUPPLIES AND SERVICES: "Lockfoam" polyurethane resin and catalyst supplied by Nopco Chemical Co., North Arlington, N.J. Corrugated cases and partitions by General Fibrebox Corp., Springfield, Mass. Foam machine by Martin Sweets, Louisville, Ky.

Foam panels *completely fill the end sections of the shipping case and adhere to the case and divider panels to form rigid structural members. As can be seen from top view (left) and bottom cut-away (right), the polyurethane foam completely surrounds the protruding parts of the machine and prevents its movement in any direction.*



Vodka cruises in plastic boat

Success of almost any packaged product is due in large part to the creative merchandising support it receives at the point of purchase. A sure-fire attention getter for summer display of Smirnoff Vodka was this inflated vinyl plastic boat with colorful lithographed sails and pennants—an award winner in the window display division of the 1961 Lithographers & Printers National Assn.'s national competition. The boat was a real one which the liquor dealer could keep after the promotion for youngsters to sail in home pool, pond or other safe waters. For display, the boat was large enough to hold a case or more of Smirnoff Vodka bottles. The colorful sail dramatized the promotional blurb: "Smooth sailing with Smirnoff Vodka—it leaves you breathless." The five pennants, strung from mast to bow, were printed pictorially to suggest the various drinks, popular for the hot-weather season, that may be made with vodka: cocktails, screwdriver, vodka with tonic, vodka gimlet and vodka collins. The display was shipped in a manner that was easy to set up and, because of its unusualness, was an inducement for dealers to use it. *Display by Einson-Freeman Co., Inc., Starr & Borden Aves., Long Island City 1, N.Y.*

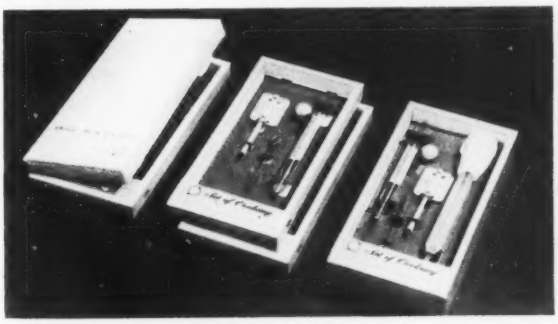
Ideas in Action

Brillo's five-year plan keeps pace with changing times

How quickly package changes must be made to keep pace with product improvements and graphic effects on the retail shelf is demonstrated by the progressive modernization of Brillo packages over the past five years, shown left to right in the photo. In 1956, the red-and-white box shed its pictorial illustration and was given a new horizontal treatment with enlarged brand name swathed full-length across the package face. In 1959, the swath was widened and softened; the package color became a lighter, brighter red and copy was re-arranged in more modern type face. In the foreground is the present package, motivated by a product improvement—a soap pad with detergent. A free-flowing curve is added to the swath; the basic red becomes more vivid with overtones of orange. The logo is brightened by use of lively lettering in brilliant blue and red against a background of yellow bubbles—a gayer package that emphasizes addition of detergent and rust resister, and offers stronger shelf impression, yet maintains familiar identifying elements intact. Attention is called to the product changes by the use of the word "new" on all panels. The logo itself is repeated boldly on all other panels so that brand identity is clear no matter how packages are displayed on retail shelves. *Design of present package by Stuart & Gunn Industrial Design, 370 Lexington Ave., New York 17.*

Modular packaging for family of thermometers

A unified family of packages for weather instruments and cooking sets by Thermometer Corp. of America has been achieved with just two basic "picture-frame" style paperboard trays with products laced into individual inserts. This simplified modular system was adopted, the company says, to offer better display potentials and easier handling for shipment. Deep trays are exactly twice the depth of shallow trays to permit convenient intermixing of orders in standardized shipping containers. A large Deluxe Cooking Set uses a double tray hinged together by a common insert. The bottom flap of all trays folds to form a compartment for such accessory items as mounting screws, templates and brackets. Trays are protected by plain paperboard sleeves during shipment and storage on stockroom shelves. Product identification and model numbers are easy to read from either end. All the boxes have fold-out tabs for rack handling or wall display. The unifying family color scheme is used alternately for the firm's two temperature-indicator lines. Packages for weather instruments have warm pink inserts in gray-and-white printed trays. Cooking-thermometer sets use gray-colored inserts in pink-and-white printed trays. *Design program by Budd Steinhilber (Vié Design Studios), Yellow Springs, Ohio. Folding boxes and sleeves by United Board & Carton Corp., 2 Park Ave., New York 16.*



Metal tubes can be beautiful

Too often overlooked, it seems, are the opportunities for decorating functional collapsible metal tubes in a way that dresses them up as glamour packaging. And this is an aspect of packaging that is becoming increasingly important in this day when every packager is forced continually by competition to upgrade package appearance. Striking examples, therefore, are what have been designated as "tubes of gold" for Breck Glimmer Hairdressing and Conditioner. By the use of gold-colored transparent ink, the metal surface of these new tubes has been transformed into gleaming metallic "gold." Full-color lithography reproduces the realistic floral photographic halftone that identifies Breck packages and adds to the richness and elegance of these toiletries packages. The tubes, themselves, are of a new slim-line design that gives graceful proportion. And the luxuriousness of the tubes is matched by the reproduction of the same graphic treatment on the bright foil cartons that house them. Different full-color printing combinations distinguish "dry hair" and "normal hair" preparations. *Tubes by Sheffield Tube Corp., New London, Conn. Foil cartons by Sample-Durick Co., Chicopee, Mass.*

SUCCESS STORY NO. 5 OF A SERIES

ROYAL CROWN CANNED

The biggest user of metal containers for carbonated beverages, this pioneer finds cans create extra sales to improve the over-all market position won by bottles. Its 13 lines—one-fifth of the nation's total—are canning 10% of its production volume for markets that will buy a billion cans this year.

This year for the first time since they were introduced in the early 1950s, canned soft drinks will pass the billion mark in unit sales in the United States. Credit for the acceptance and growth of this convenient, lightweight disposable container is shared by many soft-drink packagers—since most major brands are now marketed in cans as well as in bottles—and to their can suppliers who have put strong promotion back of metal for both carbonated beverages and beer.

But the pioneer among the big-name brands and the largest user in the U.S. is the Royal Crown Cola Co., which each year demonstrates its satisfaction and success with cans by consuming almost half of all the soft-drink cans used in the country. And this Columbus, Ga., company is betting big money on the future of its can, which was first used five years ahead of such other top soft-drink brands as Coca-Cola, Pepsi-Cola and Seven-Up.

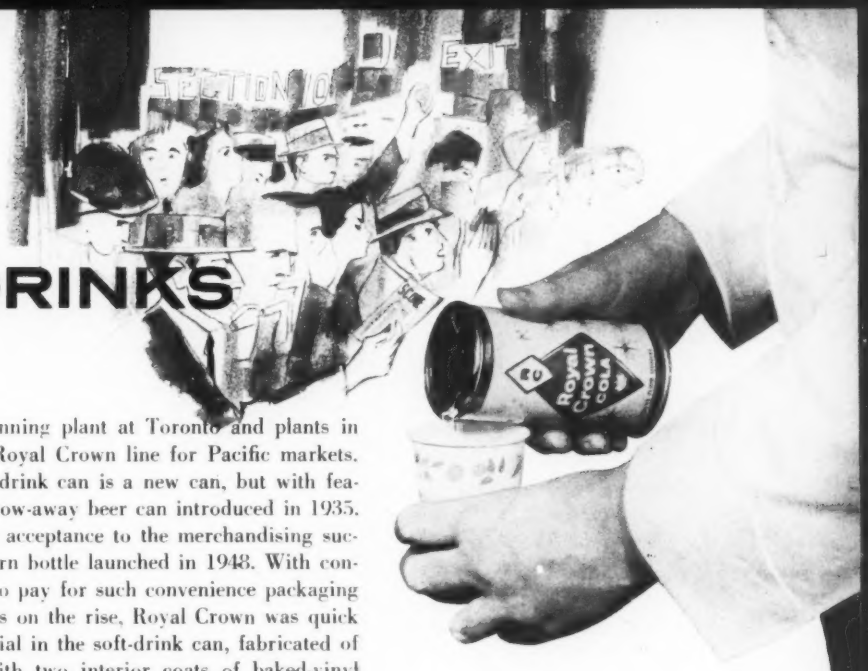
Some observers say the metal container for soft drinks came of age when these three labels first appeared on cans in the domestic market in late '59. However, Royal Crown not only was way out in front of what is now a confirmed trend, but it is adding three new canning lines for a total of 13—one-fifth of U.S. canning capacity.

Like most soft-drink bottlers and can suppliers, who are convinced that canned beverages create extra business with little substitution for bottled drinks, Royal Crown credits the can with helping to maintain its total 1960 sales on a par with those for 1959. In repeated surveys among distributors, Royal Crown dominates the varied lists of soft-drink brands stocked by retailers.

"Can sales," says president W. H. Glenn, "are largely plus sales and big business. We have found that Royal Crown Cola Co. products in cans improve our over-all market position. In some cases they are our best wedge or entry into particular markets. Also, cans are adaptable to grocery shelves and to vendors, industrial outlets, military installations and areas having specialized distribution needs."

The company's faith in its can and in other production and packaging improvements was evidenced by a 1960 investment of $6,000,000 in new or improved plants. Coupled with anticipated expansion this year, these are providing new canning equipment in Detroit, new canning lines in Baltimore and Louisville, tripled canning capacity at Fort Worth, introduction of Royal Crown products to Canada with a

Four brands *in assorted flavors make up the canned soft-drink line of Royal Crown Cola Co.*



SOFT DRINKS

million-dollar bottling and canning plant at Toronto and plants in Japan to bottle and can the Royal Crown line for Pacific markets.

Royal Crown's flat-top soft-drink can is a new can, but with features similar to the handy, throw-away beer can introduced in 1935. It owes some of its consumer acceptance to the merchandising success of the no-deposit, no-return bottle launched in 1948. With consumers obviously in a mood to pay for such convenience packaging and with leisure-time activities on the rise, Royal Crown was quick to sense the specialized potential in the soft-drink can, fabricated of corrosion-resistant tinplate with two interior coats of baked-vinyl lacquer and a third coat over the side seam. Shortly after its introduction, Royal Crown started using this new container, selling 1,500,000 cases in 1954. Last year its four brands—Royal Crown Cola, Nehi, Upper 10 and Diet Rite—went to market in a total of 10 million cases (240 million cans), supported by an advertising and merchandising investment of $1,400,000 out of a total advertising outlay of more than $12,000,000, including regional promotion of the canned soft-drink beverages by local plants.

Surveys have shown that consumers like canned soft drinks because of convenience, safety, easy storage, fast and long cooling, and easy disposability. Royal Crown adds the advantages of "few production difficulties" and reduced cost for franchised bottlers due to use of cans where bottle loss is high, such as in outdoor areas.

The company will not estimate the share of Royal Crown sales increases attributable to cans. But in 1960 alone, can sales were one-quarter of its total can volume since 1954, although still less than 10% of its total annual volume. However, this figure is at least five times the industry-wide ratio to bottle and syrup sales.

Since domestic soft-drink packagers on the average use cans for less than 3% of their total output—and one-way bottles also for less than 3%—the can potential is evident and the growth is documented. In the summer of 1960, one-quarter of all American families bought soft drinks in cans, accounting in large part for the 49.6% increase in canned soft-drink sales over 1959, a growth expected to be duplicated this year. This was the largest gain registered by any canned product (over-all can use decreased 3%; canned beer, 4.3%).

With this "definite trend toward the non-returnable convenience package," Royal Crown predicts continued growth of can sales in 1961 and in the foreseeable future: "It is our contention that the can market is a rapidly expanding segment of our industry and we plan to take full advantage of the opportunities it offers."

The company's early recognition of a new package form and its skill in capitalizing upon it accounts for this *Success Story*.

SUPPLIES AND SERVICES: Royal Crown uses "MiraCan" cans by American Can, 100 Park Ave., New York 17, and cans by Continental Can, 100 E. 42 St., New York 17.

THIS MONTH'S COVER

MODERN PACKAGING

In this children's party setting, photographed for MODERN PACKAGING *by Hal Reiff, and in the sports scene at top of page are suggested two of the home and outdoor activities where canned soft drinks find a special appeal.*

AUTOMATION

New filler and lidder for garden seeds imbedded in vermiculite provides essential economies for Benton-Kirby's foil planter, introduced three years ago to overcome the competition of plastic planters

Here is a company which has had its packaging ups and downs, and has enjoyed them both. The first "up," caused by substitution in 1958 of a foil container for a folding carton, appreciably increased container costs. But sales have soared a whopping 200% a year since that change. Now, with the recent installation of a new automatic machine—said to be the first of its type—unit packaging costs have been brought down well in line with the product's 29-cent selling price.

The machine will have wide interest for all who wish to use foil containers for any product.

Benton-Kirby, Inc., Milwaukee, packages garden seeds in vermiculite. Seeds grow in the package until they are large enough to transplant. Thus the product poses a set of tough package requirements:

1. It should be decorative, since the product sells on impulse and then the package is on view in the consumer's home for a period of several weeks.

2. It must be as nearly siftproof as possible because vermiculite is a fine, granular material with a tendency to work its way out of any package.

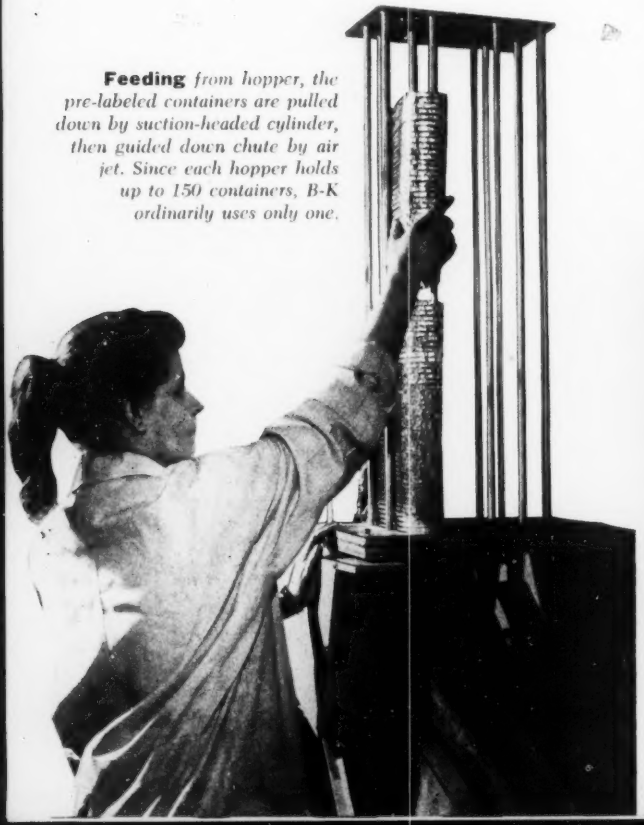
3. Moisture transmission must be nil both ways. Moisture must be kept out before opening; after the package has been opened, the vermiculite must be kept constantly in a damp state.

4. It must be comparatively low in cost.

This last requirement would be the one hindrance to foil if it were not for recent equipment developments, according to the company. B-K's first semi-automatic machine, installed when the foil package was adopted, produced 35 containers per minute and allowed sufficient economies over previous hand packaging to make the 3-cent foil-container cost reasonably practicable for a 29-cent product. Now its new $11,000 automatic machine, which deposits, fills, applies paperboard lids and closes the container at a speed of 50 containers per minute has cut the company's packaging labor cost 57%.

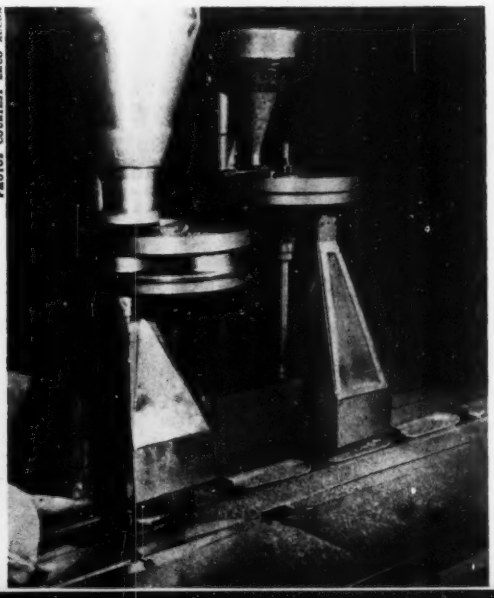
Counter to plastics trend

B-K's packaging evolution was forced by competition. Its original paperboard planter, though it became soggy during seed germination, was adequate while the product was alone in its market for 15 years and there was little incentive for improved packaging. By 1958, how- [*Continued on page 116*]



Feeding *from hopper, the pre-labeled containers are pulled down by suction-headed cylinder, then guided down chute by air jet. Since each hopper holds up to 150 containers, B-K ordinarily uses only one.*

Filling *is by separate volumetric fillers which load vermiculite (left), then seed in random pattern. Vibrator attachment helps to level fill. Extreme abrasiveness of vermiculite has caused no difficulty.*

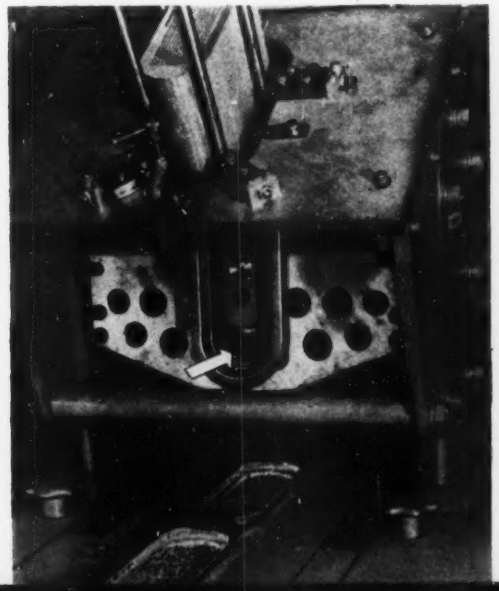


PHOTOS COURTESY EKCO ALCOA

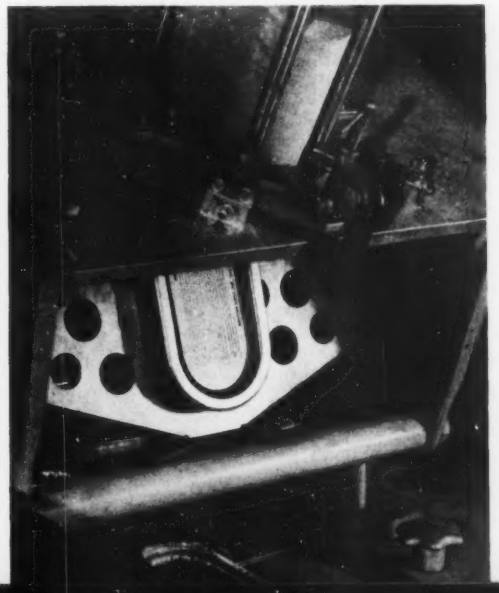
JUSTIFIES A PACKAGE

Quality appearance *in the home is provided by aluminum and gold-colored foil used in Benton-Kirby planters.*

Cover is pulled *by upper die (center, swinging upward) which is equipped with suction-headed piston (arrow) taking paperboard lid from angled hopper (above) when plate reaches topmost point of rotation.*



Cover is crimped *at this point. Upper die swings down to horizontal position. Crimping occurs as lower die elevates, forcing container rim against radius of upper die and over lid edges. Containers move to left.*



At end of line, *nested containers are hand packed in shipping cases. These aluminum foil planters are virtually siftproof.*

[*Continued from page 114*] ever most new competitors were using thermoformed plastic containers which B-K considered attractive and practical for long-term exposure in the home. The company decided that the time was right to make a packaging change, but did not wish to imitate competitors.

Foil appeared to meet all these requirements:

1. It was completely waterproof.

2. Its decorative qualities were excellent since, without their lids, the aluminum or gold-colored foil containers rather closely resembled expensive planters made of silver or brass.

3. Paperboard lids provided space for full-color floral illustrations and detailed use instructions.

4. No other planter in its price class was using foil—a merchandising advantage and counter to the growing competition of plastics packages.

5. Semi-automatic equipment available for producing the package not only gave an almost siftproof closure, but also allowed enough labor saving from the previous hand-packaging method to make a foil container financially practicable.

Despite the new package's immediate sales success, B-K wished to bring unit packaging costs down still further and so welcomed its container supplier's new automatic packaging machine. Results in this first season of use have been outstanding. (B-K now packages only six months a year, although it is currently developing new year-round products.)

Four packaging people are turning out 22,000 packages a day; with the semi-automatic equipment seven people produced only 12,000 a day. In addition, the new machine needs one-third less floor space than the semi-automatic units. While the machine has the same mechanical principles as the semi-automatic unit, it is thought to be the first to combine all packaging functions—container depositing, filling, cover depositing and closing—in one in-line operation. All of these functions are automatically coordinated by one speed-setting wheel and are controlled by only one on/off button.

How the equipment operates

The manually loaded twin-hopper container depositor at one end of the machine holds about 150 pre-labeled foil containers in each hopper. B-K usually uses one hopper, with the second in reserve. An air-operated cylinder equipped with rubber suction heads pulls a container from the hopper. Assisted by a brief blast of air, the container moves down a chute into position in a channel between two flight bars on an endless-chain conveyor.

Containers are volumetrically filled, first with vermiculite and then with seed in a random pattern. The vermiculite feeds down from a huge master hopper on the floor above and through a rotating hopper above the machine. A brush on the hopper helps to level the flow, assisted by a vibrator.

After passing over a no-package/no-feed microswitch, the container moves into the closure section. Cover placement and crimping of the vertical-flange container are accomplished at one station. This consists of an angled cover hopper and upper and lower die assemblies. Although the two dies face each other in relaxed position, movement of the lower die is straight up and down while the upper die rotates vertically 200 degrees. Heart of the cover-depositing mechanism is a piston-operated plate in the center of the upper die which cycles three times during one closure operation. The face of this plate contains two rubber-tipped suction heads.

As the container moves into position between the dies, the upper die rotates upward until its plate contacts a paperboard cover at the bottom of the hopper. A microswitch is tripped, activating the piston, and the plate thrusts forward to pick up the cover by suction. The plate returns to flush position as the piston retracts. The die then rotates downward until the cover is centered directly above the filled container. The microswitch is tripped again by another cam and the piston-operated plate again moves forward, depositing the lid on the container.

Simultaneously, the lower die elevates about 3 in. until the container rim contacts the radius of the upper die, inwardly crimping the flange securely over the cover. Lances on the upper die make the closure even more secure. The lower die retracts, leaving the container [*Continued on page 252*]

SUPPLIES AND SERVICES: Foil containers and Type VI packaging machine by Ekco-Alcoa Containers, Wheeling, Ill. Labels and lids by Stecher-Traung Lithograph, Rochester 7, N. Y.

Pouching 46,000 Buick parts

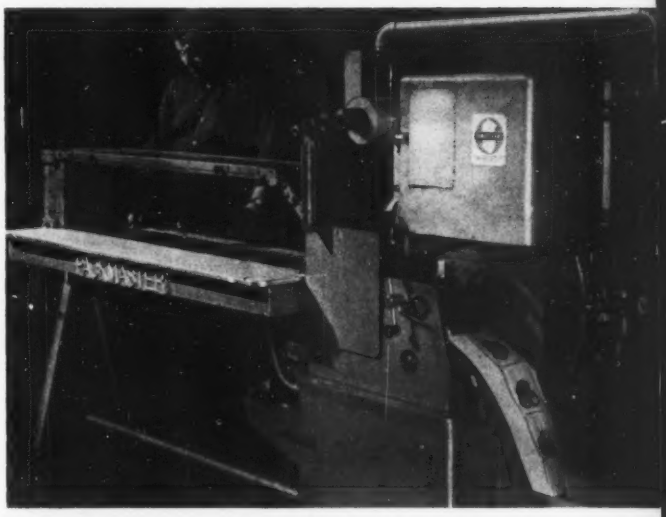
Semi-automatic machine heat seals single or multiple components in polyethylene-coated cellophane, cuts costs substantially. Ingenious sealer permits fast change-over for many package sizes

Industrial packagers producing a wide range of product shapes and sizes challenge the ingenuity of packaging-machine suppliers. The specialized need of these companies for package-size flexibility is coupled with the more common requirements of low unit cost and adequate speed. Today there is increasing evidence that these complex needs are being successfully met.

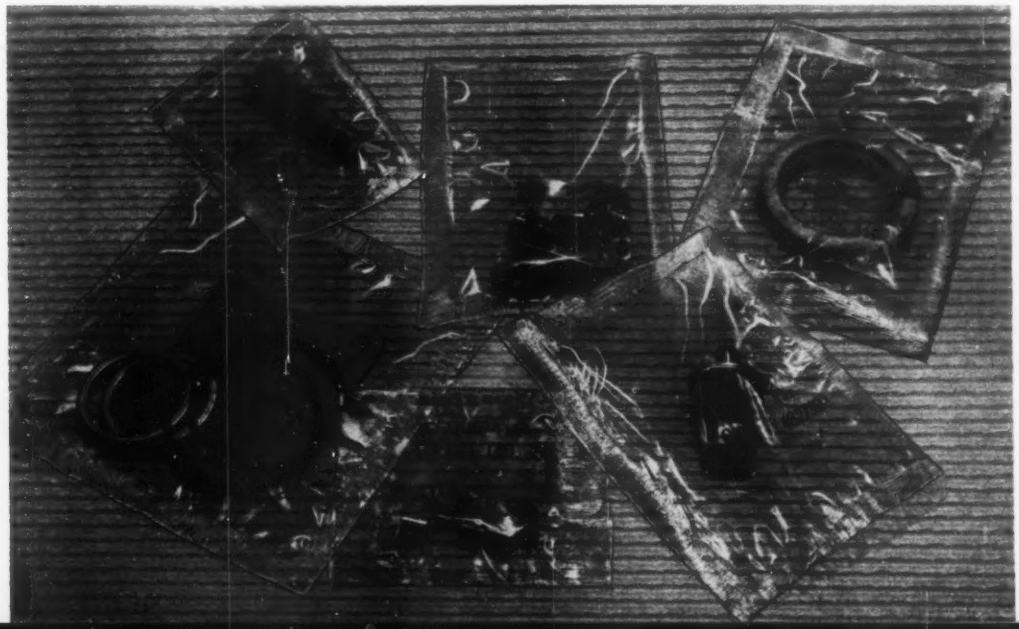
A good case in point is a new semi-automatic pouching machine, small in size but big in versatility, recently installed at General Motors' Buick Motor Div. parts warehouse in Flint, Mich. The machine produces a sandwich-type polyethylene-coated cellophane pouch sealed on all four sides. With only four adjustments, Buick can turn out pouches as narrow as 2 in. and as wide as 7 in. and ranging from 3 to 14 in. in length.

The hand-loaded machine provides substantial savings in over-all packaging costs for the 46,000 different types of parts handled annually.

In spite of the machine's extensive size range, change-over time for a complete switch in length and width dimensions takes at most 15 minutes. This is particularly important for an operation such



Perforated strips *feed directly into shipping carton from this versatile hand-loaded machine that handles 46,000 different Buick parts. White strip serves as guide. Dual webs of film feed from above and below the sealing mechanism. A pre-set counter stops the run for replacement of shipper. Below are some of the pouch sizes, ranging from 2 to 7 in. wide and 3 to 14 in. long, that can be heat sealed at a production rate of 42 per minute on the new semi-automatic pouch-making equipment.*



Flight bars *on drive chain that determine pouch length also serve as product conveyors. Longitudinal divider rail determines the width of film pouches.*

as Buick's, where comparatively short runs to fill special orders may necessitate as many as eight size changes daily. That change-over can be accomplished so quickly is due mostly to a practical change in the design of the sealing roll mechanism.

Unlike the rotary sealing dies used in many other pouching machines, the heating elements in Buick's machine are contained in the roll arbors and not in the rolls themselves. Rolls are removed from their arbors by releasing air pressure, loosening set screws and sliding the rolls off. Another size of rolls is then slipped on to the arbors and the screws retightened. There is no need to adjust temperature, dwell time or other functions. And the rolls, having no heating elements, are relatively inexpensive.

While package output per minute varies because of the wide range of sizes handled, Buick's average rate is 42 units per minute—well above the average of its former hand-packaging operation. In addition to achieving greater parts protection and maximum display and appearance value, substantial unit cost savings are made over the former method of packaging, which used kraft folding cartons and envelopes.

This is the second small machine selected by the GM Buick Motor Div., world's biggest manufacturer, to mechanize parts packaging. The first, a blister maker and sealer,* is used for bulky parts; this pouching machine is used for flat parts. Like the blister machine, the pouching machine is equally effective for single or multiple parts.

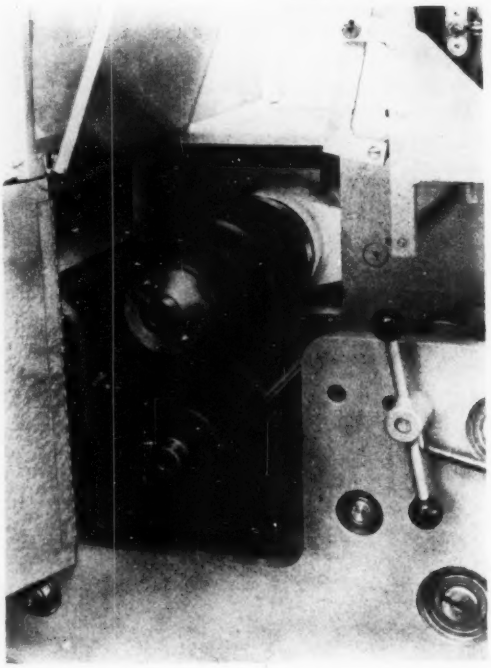
Operation of the pouching machine is basically simple. Two webs are used, both 300 cellophane coated with ½ mil of polyethylene for heat sealing. But unlike some other pouching machines, neither web serves as product conveyor. Instead, a pusher-feeder arrangement—consisting of a series of resin-treated Micarta flight bars or fingers mounted on an endless drive chain—divides the machine's conveyor into individual pockets for hand loading.

Buick reports that all parts remain in place through the entire packaging operation. This is most important because as many as 30 different parts (making up a kit) may be packaged in a single pouch. Were any of these to work their way outward into the sealing area, a defective package would probably result.

Once in their separated pockets, the parts to be packaged move toward the point where the two webs

*See "How GM Uses Blister Packs," MODERN PACKAGING, April, 1961, p. 191.

HOW FAST



Sealing-roll design *is the key to quick adaptation to different package size. By releasing air pressure and loosening set screws, rolls are slipped off and replaced. Since heating elements are located in stationary arbors rather than rolls, no heat adjustment is needed when package size is changed. In operation, product comes in from left, sandwiched between film webs, while flight bar (left, center) turns up on return trip. Recessed roll surface prevents damage to product passing between cylinder rolls.*

meet. The top-mounted web passes through an imprinter, where it receives a one-color imprint of brand name, group and part numbers, and the Buick crest, while the bottom-mounted web of cellophane film is drawn up through a series of tension rollers.

At the furthest point to which the drive chain travels before starting its return trip, the bottom web has reached a position directly underneath and the product is deposited on the web, untouched by the flight bars as they draw up and away.

The top web then meets the bottom web, sandwiching the product between, and together the two webs pass between a pair of sealing rolls. The heated top roll softens the polyethylene coating on the cellophane. Both this heated roll and the bottom cold roll are recessed so that the product is not touched. The middle area of the pouch, containing the product, fits into the recessed sections on the two rolls and is neither heated nor compressed. Only the four edges of the pouch are firmly confined between the sealing rolls.

Because Buick wants a strip pack instead of severed pouches, a perforator knife replaces the machine's standard cut-off knife. The continuous strip of completed pouches feeds directly into a shipping container placed at the end of the machine. An automatic pre-set counter rings a bell when the correct count is reached and automatically shuts off the machine. Operators then replace the filled shipper and switch the machine back on.

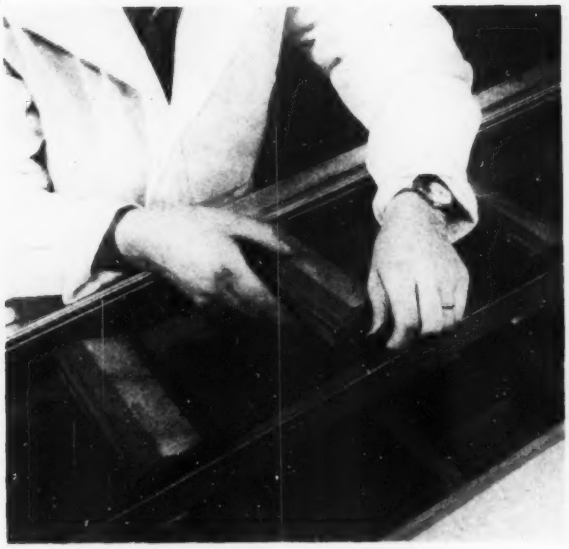
The size of pockets on the pouching machine can be changed as easily as the sealing rolls. They can be made shorter or longer by snapping the flight bars into different lugs on the drive chain.

When package width is also being changed, the operator repositions a divider rail which runs the full length of the pusher feeder. This can be placed in any one of six slots on the flight bars, depending on package width desired. The operator then changes the set of sealing rolls and—if change in package width is a radical one—also changes the two webs of film. The machine is then again ready to go. The 15 min. needed for complete package-size change-over is lessened somewhat when width or length only is being changed.

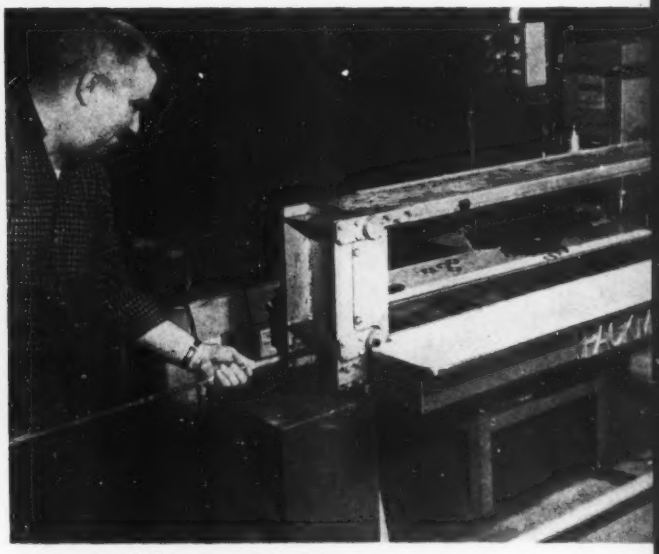
Buick's success with these semi-automatic pouching and blister-packaging machines underscores the fact that the job to be done, not the size of the company, dictates the size and complexity of equipment selected to turn out packages satisfactory to both the packager and end user.

SUPPLIES AND SERVICES: Packmaster Model 50A pouching machine by Sundstrand-American Broach Div., Sundstrand Corp., Ann Arbor, Mich. Polyethylene-coated cellophane by Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2.

CHANGE-OVER IS ACCOMPLISHED



Package length *is changed by repositioning flight bars. Note vertical slots in flight bars to accommodate rails that set package width*



Package width *is adjusted simply by withdrawing the divider rail and inserting it in a different row of slots in flight bars.*

"Why White Cap?"

Because

of QUALITY!

In caps, as in the products they protect, the "must" ingredient is consistent quality. These notes tell how White Cap provides it.

A cap may be well designed for protection, for economy, and for convenience—*but unless the design is produced with the necessary consistency, it can't deliver maximum service.*

It's this basic fact that accounts, in large measure, for the remarkable acceptance of Vapor-Vacuum closures by White Cap.

One good explanation of White Cap's ability to maintain its remarkable quality levels is found in the controls that govern production, here. Application of the most modern *Statistical Quality Control* methods, for one thing, has made a great contribution. But the full explanation is far wider than this.

White Cap quality levels are a matter of making quality control a built-in part of the entire production process. They're a matter of long-established principles and policies and unique facilities. And they produce remarkable results for packers.

So, when the question is "Why White Cap?" it's these quality-building forces which provide a big part of the answer.

WHITE CAP COMPANY
DIVISION OF CONTINENTAL CAN COMPANY

6-61

Ram loading of divider

Two-stage modification of a standard machine enables Burroughs Wellcome to halve the labor of combining bottled tablets and separators in a tuck carton

Much of the progress in mechanical packaging today involves getting more action out of a standard machine. And this is especially pertinent to a cartoning operation at Burroughs Wellcome & Co., Inc., Tuckahoe, N. Y., pharmaceutical manufacturer (1,000 employees), where a standard cartoner has been modified by the supplier with two ingenious mechanical contrivances that enable it to mechanize the counting and loading of bottles of Tabloid Empirin Compound in a shelf carton equipped with a 12-pocket divider. The machine handles three sizes of bottles at 20 cartons per minute and chalks up 43% in labor savings over the previous hand-loading production line.

Since the shelf-pack divider carton with a tuck top and a snap-lock bottom is relatively common, this new automatic packaging technique may find wide application for other products, particularly in the pharmaceutical and toiletry industries.

Tapered oval shape *of Empirin bottles complicates automatic handling of 12-unit carton. In new packaging method, divider is inserted to separate grouped bottles prior to cartoning.*

Essential to the success of this unit are two specially designed mechanical components: (1) a collator that re-arranges a single line of hard-to-handle oval bottles into four lines and (2) a carton loader that groups the bottles by the dozen after dividers have been dropped over the bottles by an operator and loads them into cartons erected in a different part of the machine. The cartons are, of course, closed automatically.

Product bottles containing 12, 25 or 50 tablets are handled on this machine, which can be changed over for different sizes in about 90 minutes. The entire tablet-packaging line now runs with only six female and two male workers; before it required 14 to hand load the bottles into the divider cartons.

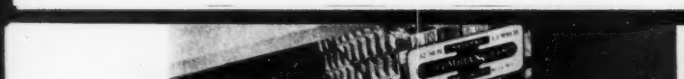
The collator is a simple mechanism which, like most cleverly designed devices, required extensive engineering. Its function is to break up a single file of bottles into four lines so bottles can be grouped in dozens. This is accomplished by changing the direction of container flow twice in a short space.

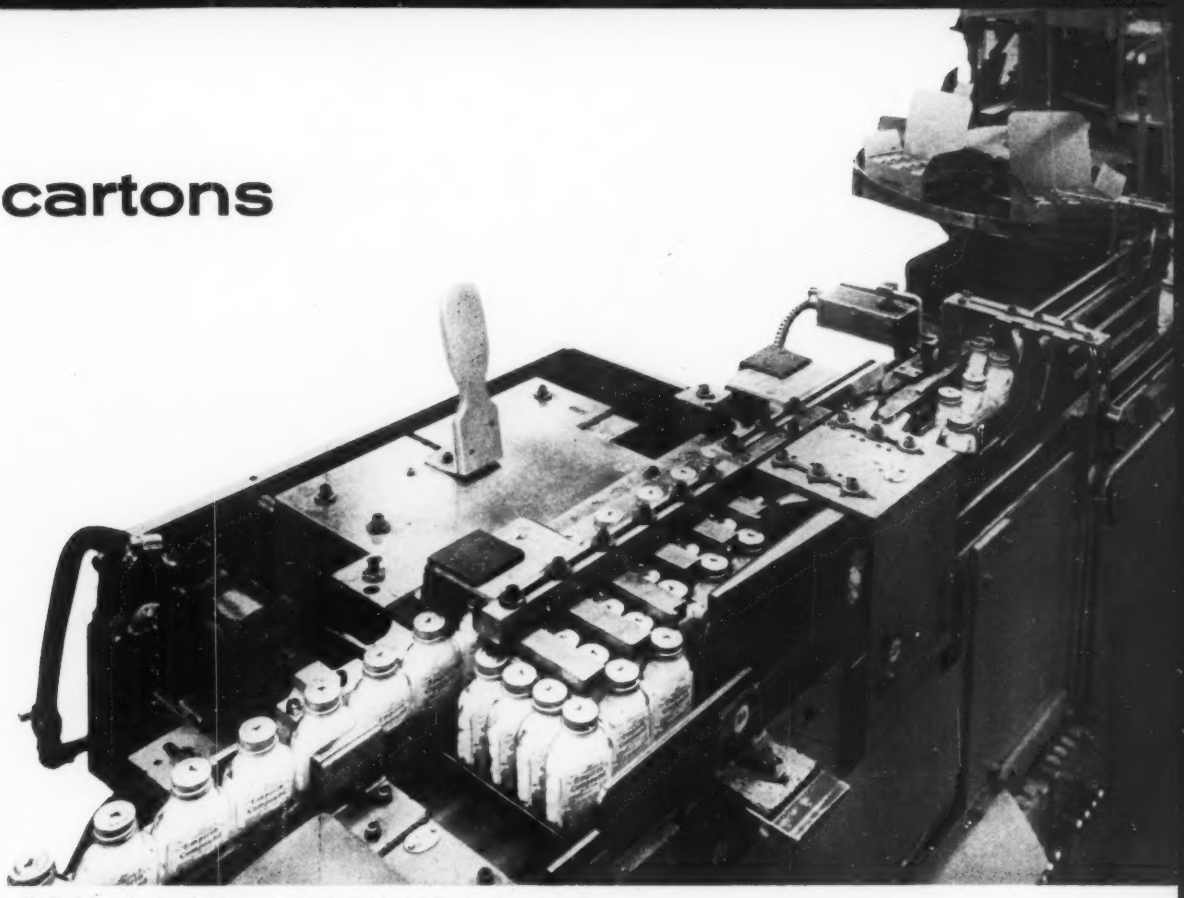
Bottles entering the collator in a single file are isolated as soon as 12 have passed a given point. These 12 are then pushed at right angles onto an adjacent dead plate where the first three are picked off by a conveyor and moved toward the cartoning station, parallel to the original main flow.

When 12 more bottles enter the collator in single file and are pushed into the adjacent lane, they, in turn, push the previous row into still another lane. Another conveyor takes off three more bottles from the first row. This operation is repeated until the 12 bottles in the first row have been separated in groups of three on four parallel conveyors. Thus at all times there are parallel rows of 12, nine, six and three bottles awaiting simultaneous lateral movement and conveyor pick-off by threes.

Here are the mechanical details of the line:

As the bottles enter in single file on the main conveyor, they strike a switch plate and activate a pneumatic ram that closes a side rail and momen-



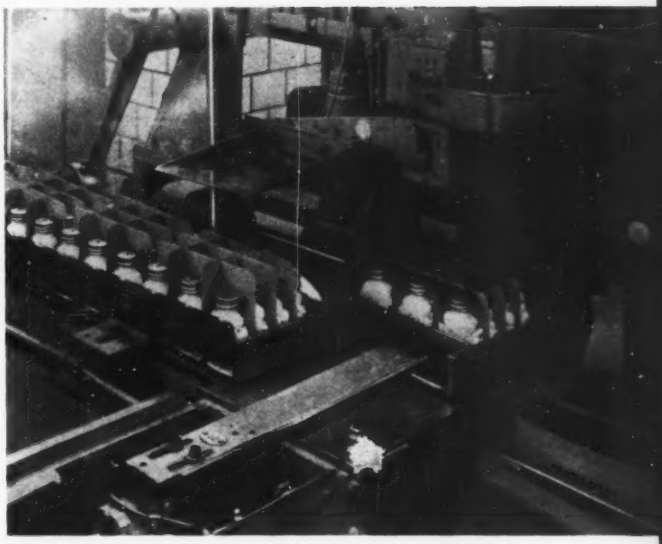


Collator *takes bottles from single file (left) and divides them into four rows (foreground) by means of wide ram. The ram then pushes 12 bottles at a time across notched dead plate from which they are conveyed to right in groups of three.*

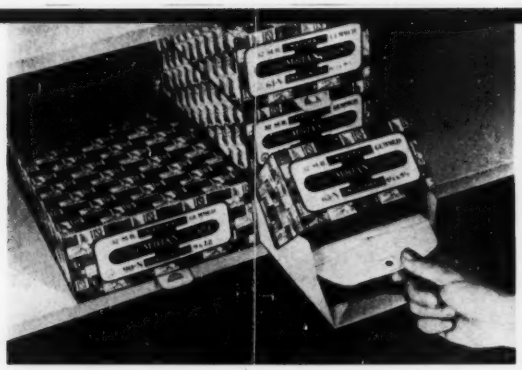
tarily stops the main flow of bottles after isolating the 12 bottles in a single row. Another ram, worked by a barrel cam and lever, then pushes the 12 bottles onto the dead plate. To avoid jams, this ram is equipped with a spring arm attached to an electric switch to stop the machine if excess pressure develops. Before this action occurs, however, a guide rail between the belt and the dead plate that holds the bottles in line as they enter the unit drops flush with the belt and plate. Overhead bars guide the bottles as they are moved sideways. The take-off conveyors are located under the dead plate, which is notched at three-bottle intervals. Longitudinal plates located between these take-off conveyors serve to keep the bottles under control as they move toward the cartoning station.

The bottles collect in [*Continued on page 224*]

SUPPLIES AND SERVICES: Model NMV cartoner by R. A. Jones & Co., Covington, Ky.



Loading station *of cartoner accepts 12 bottles (from left) in a four-by-three pattern and the hand-inserted divider. As a horizontal ram pushes 12 bottles into place under a vertical ram that will insert them into a carton (center), mechanical arms extending from this device push dividers into place (left center) and insure that flaps on the bottom of the next carton are locked (right).*



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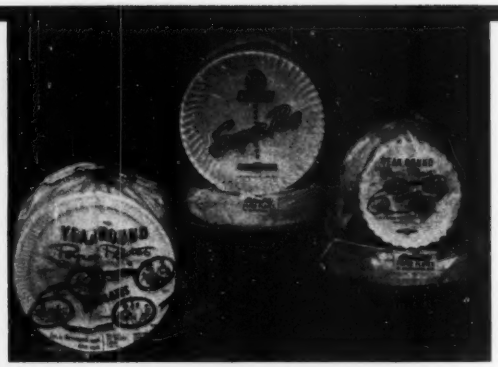

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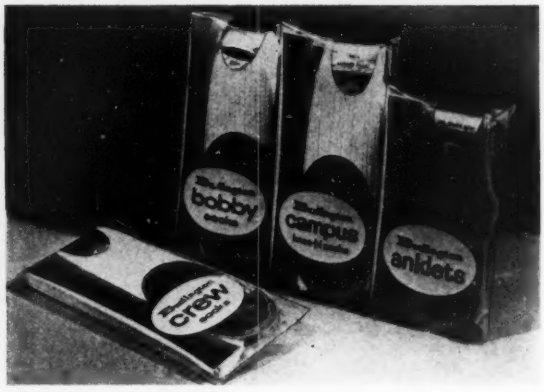

4

1 New, easy-to-use paperboard containers for the U. S. Envelope Co.'s Columbian Clasp envelopes have flip-front lids, pull tabs and dispenser fronts that permit quick removal of these business envelopes while the box is stored on a shelf. The perforated and scored lid is flipped up to reveal a perforated pull tab in the front end of the box. By inserting the forefinger in the pull-tab hole, front of the box drops forward, forming a "drawer." Another container feature is a handy re-order device—a window that allows the consumer to see when the envelope supply is running low. Container, Robertson Paper Box Co., Montville, Conn.

2 Alfred Bleyer & Co. reports a sales increase of 40% since its paper plates have been packaged in polyethylene drawstring bags. Also, returns are practically nil and all this has been achieved with a unit-cost saving. The drawstring bags provide an extra bonus to consumers since they may be reused as utility bags in the home and also for outdoors—where most of these products are used. The color-printed bags are made of 1½-mil film. The plates, in 6-, 7- and 9-in. size, are automatically packaged in units of 50 and 100. Bags measure 11 by 11 in. for the smaller-sized plates and about 12 by 14 in. for the larger sizes. Bags, Action Bag & Envelope Co., Brooklyn. "Visqueen" film by Union Carbide's Visking Co., Chicago.

3 A new merchandising approach in the footwear industry—a folding box shaped to fit the product—is aimed at increasing sales via the package. The product is a plastic overshoe for toddlers and infants, manufactured by the Essex Master Mold Co.'s Emmco Products Div. The boot-shaped box features a transparent film window through which a clown molded on the toe of each boot is visible. Circus scenes printed in red, yellow and white include animals, clowns, merry-go-round, etc. On top of the box is pictured a comical clown holding a hoop, on which are printed the words "To" and "From," making the box appropriate as a gift. Box, Robertson Paper Box Co., Montville, Conn.

4 A coordinated merchandising plan for Burlington-Balfour Mills' line of children's and misses' hosiery is presented forcefully at the point of purchase by a unified new family package design. Construction consists of a special paperboard folder and polyethylene envelope. Graphics are arranged to present product information in what the company's research found to be the most logical for quick shopper selection: type, weight, style, brand and price, size and color. Printed design on the envelope quickly identifies the type of sock; transparent areas show its color and construction. On the counter, arranged according to plan, the packages form an imposing display. Package supplied by Riegel Paper's Lassiter Div., New York, using the company's "Foldcote" bleached board. Surface design, Donald Deskey & Associates, New York.

5 Glassine bags selected by Jack's Cookie Corp. for packaging their three new cookie products—Banana Cremes, Iced Oatmeal Cookies and Pecan Patties—

have one panel printed horizontally and the other side printed vertically to permit stacking on shelves in either or both positions. The automatic bags, made of white opaque glassine with an inner liner of wax-laminated amber glassine, provide multiple product protection. The liner is a moisture barrier to keep cookies fresh. Glassine's inherent grease and oil resistance protects bag against stains from shortening in the cookies. Bags, Continental Can's Flexible Packaging Div., New York. Surface design, Robert G. Neubauer, Inc., Fairfield, Conn.

6 In contrast to the "prescription label" approach to health-food promotion, the overwrap for "Tiger's Milk," a food fortifier by Plus Products, capitalizes on a whimsical design treatment to command consumer attention. The illustration depicts a capricious tiger cuddling a glass of the concentrated nutrition drink and emphasizes the product name (coined by nutritionalist Adele Davis in her book, "Let's Eat Right to Keep Fit"). Complete vitamin, mineral and protein analysis is provided on the wrap, along with recipes. Wrap, Crown Zellerbach's Western-Waxide Div., San Leandro, Calif.

7 Chicopee Mills' new use of pressure packing now enables the retailer to shelf stock two boxes of Chux in the same space that formerly was needed to display only one, thus offering opportunity to double a store's profit per square foot of space. The same product in the same quantity is sold at the same price. The obvious benefit for the consumer is a smaller box to carry. Surface design of the carton has been updated, featuring a line drawing of a smiling baby carrying a box of Chux.

8 DuBarry's striking Eiffel Tower counter unit makes a strong bid as an attention getter among the maze of displays on cosmetics counters. Six bottles each of two of the company's roll-on deodorants—Dainty-Dry Liquid and Lotion Deodorant—fit on a platform midway from the 7½-in.-square base of the paperboard "tower." Display, United Lithographing Corp., New York.

PACKAGING PAGEANT

5

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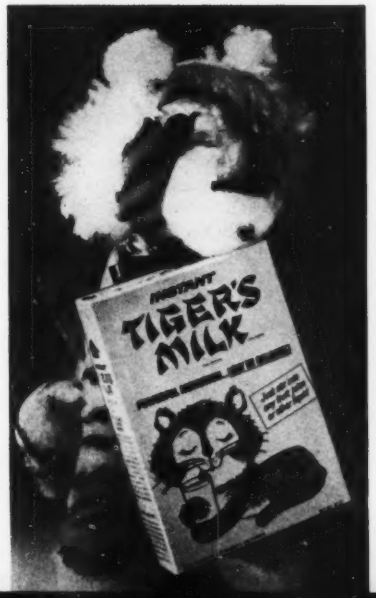

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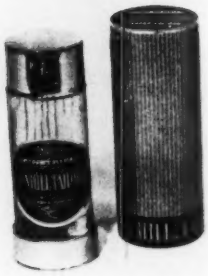
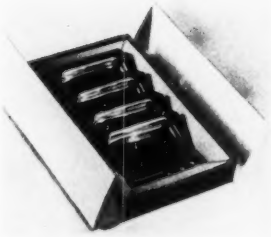
TOP AWARDS



Cosmetic *box, round. Restraint and sophistication of bottle design are reflected in the set-up box for Dunhill Tailors Pinstripe cologne for men. Exterior motif resembles gray pinstriped cloth and trimming at top and bottom is black and gold. Box F. N. Burt Co. Design, Jay Doblin.*

Year's best in set-up boxes

A trend to higher modern standards in graphics and construction, improving one of the oldest forms of packaging, is revealed by prize winners in association's annual competition



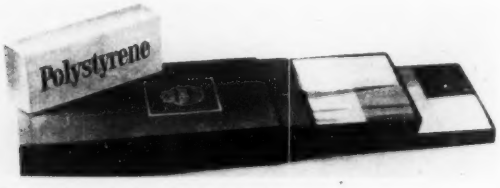
Jewelry and silverware. *A luxury setting is created for four silver ash trays by Towle in a box with gray and white double-hinged lid on a green base. Two lids open to display merchandise on a green cloth-covered, special-slotted interior platform. Box, Cambridge Paper Box Co. Design, Paul Cadorette.*

Cosmetic *box, rectangular. Lid of this Avon Products box is soft blue and is decorated with embossed lace. It fits on white shoulder-style base. Inner platform permits positioning of the three cosmetic containers. Box, Walter J. Jamieson Corp. Design, Max Rogers.*

The continuing unrivaled place in today's merchandising for the set-up box—one of the oldest package forms—is impressively revealed by the variety of end uses, new constructions and decorative treatments seen among the 3,400 entries in the 11th annual competition of the National Paper Box Mfrs'. Assn. This is the largest number of entries in the history of the association's activity.

Out of 90 citations, 21 boxes won first awards (two of these won two first awards each) and 67 received "excellence" awards. The honors were distributed among 57 boxmakers, each of whom received a certificate. The awards, presented May 5 in Washington, D. C., at the association's annual national convention, were made in the following categories: (1) superiority according to end use, (2) superiority of construction, (3) best surface design and execution, (4) best display boxes, (5) best transparent boxes, (6) [*Continued on page 128*]

DOUBLE WINNERS



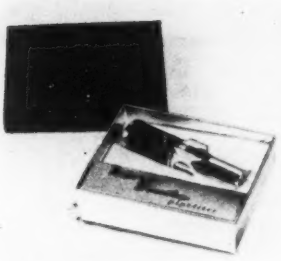
Best in Superiority of Construction
First award: Promotional Boxes

Outstanding craftsmanship is achieved for Shell Chemical Co. sample chips with this box comprised of two acetate-covered trays and heavy paperboard precisely formed and overwrapped with dark red gloss-finish paper. Slide-style shoulder construction was used. Gold-leaf stamping and letterpress printing enhance the quality effect. Box, The Chaspec Mfg. Co. Design, Industrial Contacts, Inc.

Best in Surface Design
First award: Photography Boxes

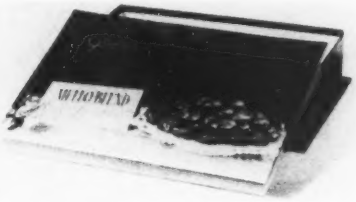
Dramatic artwork and skillful use of many colors against white background distinguish surface design of box for a home-movie light by Sylvania Electric Products, Inc. Die-cut platform and insert in the cover cradle delicate instrument for safe shipment. Two awards were won because of convenient form, identity, unusual design and product protection. Box, Friend Box Co. Design, Case-Hoyt Corp.

[Continued on page 128]



Personal accessories. *Gold letters on brown paper covering identify box for Nimrod Executive Pipelitor by Ashley A. Ward Co. The gold lighter fits snugly in tan platform, placed at an angle. Another set-up box platform, adjacent to lighter, carries product name. Box, William Kochl Co.*

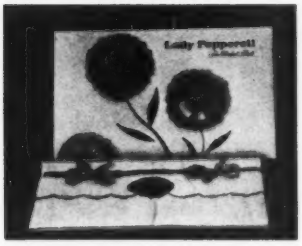
Food and beverage. *Five bottles of Charles Krug wines by C. Mondavi & Sons are housed in gold-paper-covered box. Base is of corrugated to hold weight and give protection. Corrugated partitions separate bottles. Display feature is a door-type opening. Vineyard scenes decorate exterior. Box, Boxcraft Paper Box Co.*



Confectionery. *"Mood" photography for cover of Glade Candy Co. box depicts milk chocolates on milk-glass dish with a background of candles and people. Colors are dark shades of purple, black, blue and chocolate brown. Cover identifies product; side panel describes contents, ingredients. Base is deep purple. Box, Packaging Corp. of America. Design, Garth Wright.*

Household supplies. *Insert platform to hold J. A. Gits Plastic Corp. Hi-Kool Therma glasses gives dimensional effect through acetate window lid. Sturdily constructed set-up box holds six glasses. Brown box covering enhances product colors. All sides carry product and brand identification. Acetate lid folds into double-folded end strips, hence makes the lid stronger and tighter fitting. Box, Master Paper Box Co., Inc.*

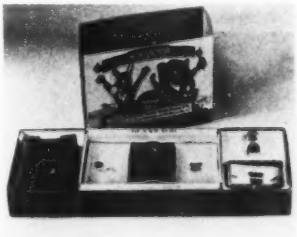
Sporting goods. *All-red box with picture of signed golf ball and slogans holds a single Ben Hogan Co. golf ball as a gift or premium for special occasions. High-quality printing enhances the product's prestige look. Box, Packaging, Inc.*



Textiles. *This new set-up box for two pillowcases replaced a folding box. Lady Pepperell box was designed for gift buyer wanting colorful gift display. Cover is white with dramatic floral motif on high-gloss paper. Base is cellophane overwrapped. Box, Consolidated Paper Box Co. Design, Frank Liotta.*

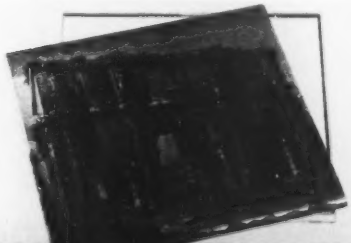
Women's apparel. *The luxury appeal of a Continental import is achieved by delicate lavender and pure-white paper with embossed escutcheons of European capitals on "Triumph of Europe" box for expensive corsets and foundation garments by an internationally known manufacturer. Box, Gerbereux, Dufft & Kinder.*

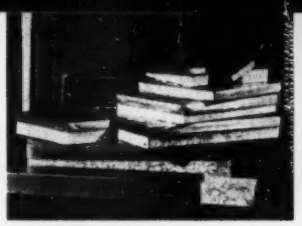
Electronics. *Red, white and blue box offers exciting promotion for election-year, campaign-special transistor radio by RCA Victor. Promotion was started in the West, but was so popular that it spread nationwide. Lid is formed by two doors. When opened, they reveal radio encased in sturdily made center platform. Door at left holds carrying case; one at right, battery and ear phones. The protective package is slipped into a gaily decorated sleeve. Box, Master Paper Box Co.*



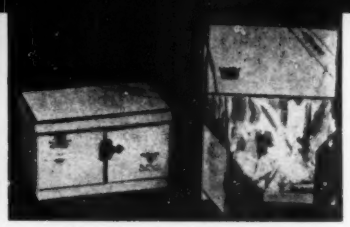
Men's apparel. *An old engraving depicts a Roman gate on fine-textured bronze paper for the cover of a men's handkerchief gift box by Manhattan Shirt Co. The scene is an attention getter in diplay. Base is of plain bronze paper. Box cover can be used later for framing. Box, Van Ness Bros., Inc. Design, Howard Aaron.*

Drug promotion. *Sturdy simulated-leather covering with gold stamping identifies Myerson Tooth Corp. box. Hinged lid opens to reveal velvet interior. Box has divider to display on one side photographs of teeth for men; on other, sample of teeth for women. Box, F. H. Buffinton Co. Design, Daniel Cavanagh.*

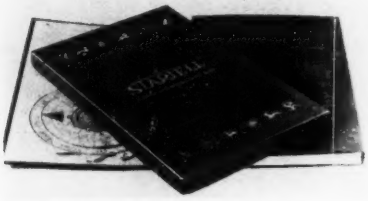




Retail boxes. *Distinctive set-up boxes for a fine retail store, Honigsbaum's, Inc., are achieved with a loose-wrap cover of high-grade paper. Lid is metallic-gold color; base is tan and gold paper of a mixed design. Gold-braid tie completes package. Store name is printed inside the lid. Box, DeFreest, Inc.*

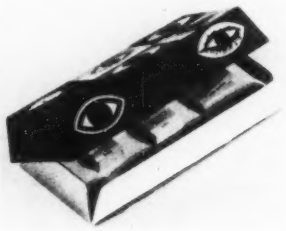


Footwear. *All-white, satin-finish paper, trimmed in gold, covers de luxe hinged-lid box for baby shoes by Mrs. Day's Ideal Baby Shoe Co. Signature lines are provided for baby's name and date of gift. Metal clasp secures the two doors. Satin-covered, die-cut platform securely holds the two shoes. Box, Friend Box Co.*



Toys and games. *A dark blue cover, decorated with silver title and designs, creates an appropriate theme for a set-up box that's winning sales for Startell Horoscope Reading Kit by Henrietta and John W. Harris. Style is rich in appearance, yet durable for long re-use—a requisite for a kit of this type. Base of the box is constructed with two hinged side pieces covered by a heavy paperboard lid. Box, Utah Paper Box Co.*

Mailing boxes. *Eye-catching artwork, unusual shape are calculated to enlist a doctor's interest in these Merck Sharp & Dohme drug samples received by mail. Product use is communicated by eye symbols and photographs on lid. Paperboard flap with tuck sides is hinged to fold into lid to provide box closure. Platform insert, die cut to hold samples and mounted on the flap, protects product. Box, C. Albert Sauter Co., Inc. Design, Andrew Schmith.*

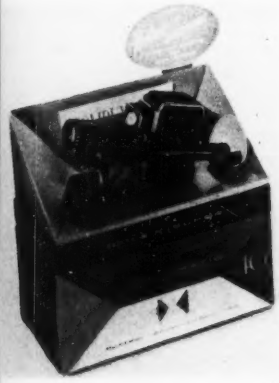


[*Continued from page 126*] best special construction.

Significant trends were the new graphic techniques employed, the greater use of photography, more set-up box constructions combined with plastics and the influence of upgraded packaging in all products reflected by high quality of the boxes.

The eight judges of the competition were: Frank P. Coons, Johnson & Johnson; E. L. Barringer, *Hardware Age;* Maxwell B. Rogers, Avon Products, Inc.; F. William Koehl, Jr., The William Koehl Co.; Seymour Robins, Seymour Robins, Inc.; Bernard Bittleman, Shulton, Inc.; Donald J. Leeker, Sears, Roebuck & Co., and George R. Bell, The J. L. Hudson Co. Chairman of the competition was Peter P. Murner of Gerbereux, Dufft & Kinder Co.

Photographs and descriptions of all of the first-award winners are presented herewith. A listing of the 67 awards received for excellence may be obtained from the National Paper Box Mfrs. Assn., Broad & Arch Sts., Philadelphia 7.



BEST DISPLAY BOX

This package was made to house an expensive camera, the Bolex Super-Zoom by Paillard, Inc. A polystyrene-foam platform, used for efficient protection and to hold the camera in place, displays the item at an attractive angle. A rich graphic effect is achieved by the use of a contrast of gold with gold pinstripes, and black on blue and white on black. Pinstripes, covering part of the lid, are used to advantage on the platform. Base of the box fits snugly on the lid for display purposes. Box, C. Albert Sauter Co., Inc. Design, S. Jay Kent.

BEST TRANSPARENT BOX

To create feminine interest in Cannon guest towels, the designer came up with an appealingly feminine weapon—a set-up box in the form of a hat. The brim is made of heavy paperboard covered with pink paper. The crown is formed from a sheet of transparent acetate, through which the colorful towels are visible. Trimming for the hat is a bow-tied red ribbon and a daisy. A separate label carries essential product data and company name. Box, Fair Martin Boxes, Inc. Design, Amy Murk.

Redesign payoff: 500%

New three-in-line candy package using gold-colored cellophane wrap skyrockets sales for King-Kup; requires eight new wrapping units

New look *gives new life to chocolate-covered peanut-butter cups. Three small cups in cellophane-wrapped boat, replacing one large cup in a square package, take this confectionery item out of direct competition with similar products and win new display locations.*

Sales increases of more than 500% on certain confectionery items are being credited by King-Kup Candies, Inc., Hershey, Pa., to a redesigned cellophane-wrapped package.

King-Kup is a medium-sized candy manufacturer (250 employees). Up until recently, the greater part of its production has been wholesaled unwrapped to large chains. But today the imbalance between bulk and consumer-packaged sales is being greatly reduced by the adoption of a revamped package and a new cellophane wrapper.

King-Kup's chocolate-covered peanut-butter cups suffered in the market from similarity in appearance to strongly established products by two other manufacturers—a "copy-cat" tendency in many packaged-goods lines. Management decided something different was needed to give the candy a distinctive and distinguishing look.

First step was to accept a suggestion that the large, single, 1-oz. cup be changed to three small cups, marketed at the same 5-cent price in a paperboard boat overwrapped with cellophane printed in gold, red, white and brown, with a sizable clear area on top to allow the product to show through. The new rectangular shape of the package would take the item out of direct competition with other peanut-cup goods, get it on display with bar goods and provide the bite-size appeal of three cups.

Within months the new package was so successful that King-Kup was more than tripling its orders for the new cellophane wraps. In a few more months it was increasing the tripled order by 50%. And the end is not yet in sight. Further graphic improvements have been made since introduction of the redesigned package and new plates provide for a tighter, more neatly fitting wrap by reducing the length of the wrapper by 3/8 in.

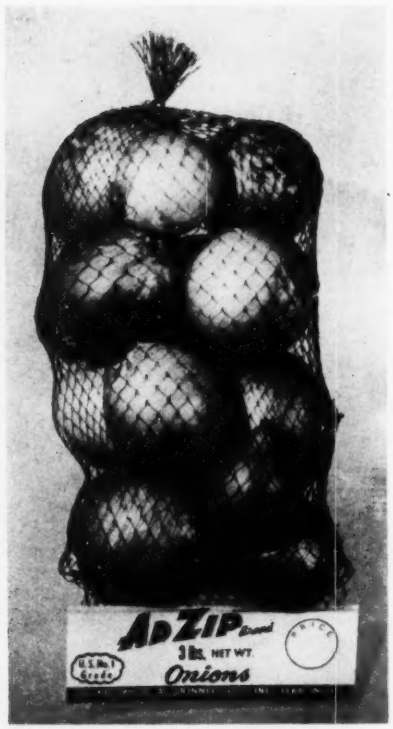
Supporting the bookkeepers' figures showing spectacular sales increases of 500% to 700% over the past 12 months are the following interesting facts about King-Kup's production: Previous to the new packaging, peanut-butter-cup production was irregular, averaging one day a week. The new wrapper necessitated overhauling the factory to set up four new wrapping machines in a line for peanut-butter-cup packaging five days a week, one full shift. In August last year the line started operating five days a week, two full shifts. Now four more wrapping machines have been installed.

Success of the three-cup, cellophane-wrapped peanut-butter cup has led to production of a family of triplets—3-Cup Full-O-Nuts and 3 Karm'l Cups, plus cellophane overwrapped six-packs.

King-Kup's purchasing agent, Paul Herrington, says the new package costs no more than the old wrap. But the slightly higher labor costs are reportedly offset by the increase in volume and by automated collating of the three cups.

Anthony J. Napolitan, president of King-Kup, points out that sales increases have been accomplished without advertising, special promotion, additional jobbers or salesmen.

SUPPLIES AND SERVICES: Printed cellophane wrappers by Package-Craft, Inc., Paterson 3, N. J., using Avisco 450 MS-4 cellophane. Wrapping machines by Package Machinery Co., East Longmeadow, Mass.



Strength of material *enables bags of gossamer-thin netting to hold and protect heavy, angular sweet potatoes (below) despite handling by both shipper and consumer. Open mesh permits free passage of respiration gasses from living fruits and vegetables and are said to extend shelf life of onions (above) by preventing sprouting and rot formation.*

PLASTIC NETTING FOR PRODUCE

Strength and open mesh of colorful tubing extruded from polyethylene boost shelf life and marketing appeal of bagged fresh vegetables

Bags of high-strength polyethylene netting—a new packaging material applied first as decorative sleeves on bottles of wine*—are now being used by two East Coast packers to enhance the marketing of fresh sweet potatoes and onions and to improve their shelf life by permitting ventilation and preventing condensation.

The sweet potatoes are packed by Atlantic County Market Growers Assn., Inc., Egg Harbor, N. J., for American Stores in Philadelphia. The onions are put up by A. A. Grinnell Co., Inc., Elba, N. Y., for Star Markets, a New England chain. Both firms sell other chains, too.

Formed from a tubular extrusion of high-density polyethylene, the fine but strong mesh is supplied to packers with an attached saddle label. In the manufacturing process, the individual strands of plastic in the netting are extruded into a continuous web. The bags used in both of these applications contain 3 lbs. of product and measure 18 in. long. Before filling, the sweet-potato bag is 5 in. wide and the onion bag is 4½ in. wide. However, the bags almost double in circumference when filled. After filling, they are closed with either tape or a metal staple. The net bag costs $25.50 per 1,000 against $11 to $14 for similar polyethylene film bags or $42 for string mesh.

This net bag is reported to be the first successful unit package for the moist "Jersey Orange" variety of sweet potato, which generates so much water vapor in respiration that it will mold in a few days in film bags. An orange-colored netting emphasizes product color.

Despite the angular shape and weight of these potatoes, the bag is reported to withstand constant handling by shippers and consumers throughout distribution. Rutgers University researchers studying the new package say it appears to have good consumer acceptance.

Increased shelf life is also important in the use of the onion bag. Before this net container was developed, Grinnell's customers resisted pre-packaged onions because they sprouted rapidly in warm weather when enclosed in a bag made from conventional materials. But both good acceptance and shelf life for onions packed in the new bags of red polyethylene netting are reported by the supermarket.

In one preliminary test by the netting supplier, a shipment of onions was packed—half and half—in polyethylene film bags and the new plastic net. At the end of a week, all of the film-bagged onions contained spoiled onions, but only 4% of the netting-packed onions were spoiled. A later full-scale series of similar tests on this product showed that the netting reduced over-all spoilage 64%.

SUPPLIES AND SERVICES: "Vexar" polyethylene netting bags by Du Pont's Vexar Div., Buffalo, N. Y.

* See "Now: Polyethylene Netting," MODERN PACKAGING, July, 1960, p. 98.

Knox Glass gives us eye appeal, ruggedness and good delivery, says major pickle packer

"Glass jars have a shelf appeal that no other container can match," says the General Manager of one of the nation's foremost packers* of pickles and relishes. "Our product is an impulse item—few women go to the supermarket with pickles on their list. The glass container makes them buy.

"Seventy percent of the glass we use is made by Knox. And nine of the 13 different sizes and shapes of jars we use are private molds—designed exclusively for us by Knox Glass.

"Our operation demands top quality glass. The jars must be rugged enough to stand the stress and strain that results from temperature changes during pasteurization and from the twisting of the capping operation. We have no problem with breakage. Knox also gives us excellent delivery."

To find out more about how Knox Glass is geared to meet your packing needs, contact Knox Glass, Inc., Knox, Penna., or any one of 37 sales offices.

*Name available on request

the new / **KNOX GLASS**

Convenience

Inner cartons *divide Kraft grated-cheese shippers into eight units of a dozen each, permit easy price marking through die-cut holes. Inner cartons carry complete product information and codes to enable wholesalers to fill small-lot orders.*

Tear-open perforations *permit shelf stocking in trays. Kraft reports increased tie-in displays in supermarket spaghetti and macaroni sections.*

Consumers aren't the only ones to benefit from today's emphasis on convenience packaging. Wholesaler and retailer needs also are being analyzed more closely as packagers search for new devices to ease the work load for these primary customers and build brand loyalty in the bargain.

Interesting and practical examples of this trend are chipboard inner cartons recently introduced by the Kraft Foods Div., National Dairy Products Corp., Chicago, for its grated-cheese products and cream-cheese spreads. While the cartons differ slightly in construction, both have the following noteworthy convenience features:

1. The inner cartons divide each single case into convenient smaller lots.

2. The inner cartons are strong enough to protect the individual units they contain even after unpacking from master corrugated shippers, allowing the wholesaler to service less-than-case-lot orders without repackaging. Small orders are commonplace for such perishable products as cream cheese.

3. Die-cut holes in the tops of the inner cartons permit quick and exact price marking without removal of contents, in either warehouse or store.

4. Perforated areas permit easy removal of one or more carton surfaces to facilitate in-carton handling or access to individual containers.

Each of the chipboard cartons was carefully designed to suit the prevailing selling methods for each of the two different types of products.

Grated cheese in tray pack

Grated cheese, in foil-labeled fibre cans, is packed one dozen per inner carton, eight inner cartons per master shipper. The top holes not only speed price marking, but also expedite counter checkout of individual packages. The holes are so located that the stamp misses the product-dispensing holes on the can tops, thus giving a legible price impression.

After price marking, front and top portions of

for dealers, too

Kraft extends easy-to-use packaging to wholesalers and retailers by redesigning small-lot inner cartons in cheese shippers for filling less-than-case orders, quick price marking and shelf stocking in trays

Easy access to individual *containers is necessary with cheese spreads because inner carton is discarded to permit air circulation in refrigerated cases. But these die-cut trays prevent glass damage in shipment and permit small-order filling and efficient price marking.*

the carton may be torn off along perforated lines to form a tray* and all 12 cans moved to the store shelf as a unit. This has the added advantage of encouraging related-item merchandising. Kraft reports that since introduction of the inner cartons, more supermarkets are stocking grated cheese adjacent to their spaghetti/macaroni sections as well as in the usual spot near the dairy case. Red promotional copy printed on the tray lip identifies the product and acts as a "shelf talker."

Cream cheese in small lots

Inner cartons for cream cheese do not convert to trays because these products must be kept refrigerated and the chipboard would impede circulation of cool air in the dairy case. So the cartons are discarded after they have served the purpose of both the wholesaler and the retailer.

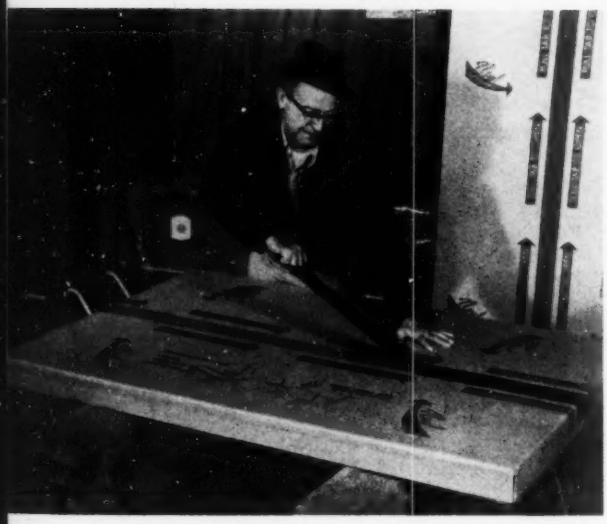
The cheese spreads are packed in glass "hostess" jars, six per inner carton, four cartons per shipper. For protection, each jar is positioned in a die-cut hole in a piece of chipboard running horizontally down the length of the inner carton.

The holes in the top of the carton are as convenient for price marking as those for grated cheese, but the biggest asset of these cartons is in filling small orders. Only the largest supermarkets are likely to want a full case—24 jars—of each of five flavors at one time. Wholesalers can now supply six jars in a factory wrap as easily as they supply a full case. And all these partial lots carry complete product information and commodity code number, which aid accurate order placing and filling.

Although these cartons represent a company-wide innovation, each of the Kraft plants obtains identical package components from local suppliers. Kraft officials believe that the slight extra cost of these new chipboard cartons is more than offset by added distributor efficiency and good will.

*See "The Trend to Trays," MODERN PACKAGING, Sept., 1960, p. 101.

Tear-tape shipper cuts damage claims 30%



The problem of product damage caused by careless wielding of carton-opening knives is a harassment to packagers everywhere. The consequences of back-room mistreatment—in terms of damage claims and unsalable merchandise—are particularly serious when the product involved is such a relatively big-ticket item as furniture. Falcon Mfg. Co., Dallas, is a company which has learned this lesson from bitter experience, but has since slashed damage claims 30% by switching to a tear-tape-opening corrugated shipping container for a line of dinette tables.

The company's new, specially constructed shipper has a tape joint down the center of its broad facing panel, replacing a stitch joint on the former carton. Copy and illustrations printed prominently on the face of the flat container call attention to the tear-tape opening device. A bonus protection feature, says the packager, is that the table can be assembled right in the carton when the flaps are opened, as a safeguard against mars or scratches that might be caused by assembling the unit on wooden or concrete floors. Formerly, the table had to be removed from the carton for this operation. *Carton by Hoerner Boxes, Keokuk, Iowa.*

COST CUTTERS

Waxed bags protect chairs and speed up packaging

What price economy? Krueger Metal Products Co., Green Bay, Wis., reports that a 55% *increase* in protective-packaging materials cost has led directly to a 50% labor saving on the packaging line as well as virtual elimination of in-transit scuff damage to a line of folding metal chairs.

The company packs the chairs four to a corrugated carton for shipment. Low-cost chipboard inserts formerly were used in an attempt to prevent metal-to-metal abrasion during shipping and other handling operations. However, says the packager, the board inserts failed to provide the full-length protection needed to keep exposed chair ends from coming together in the carton.

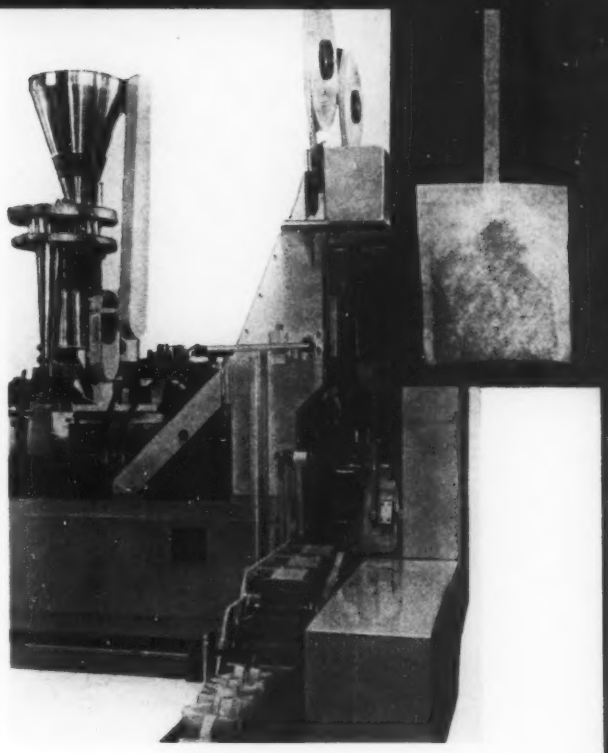
Krueger solved its problem with the adoption of large, flat-style bags made of wax-impregnated paper. The smooth-surfaced, scuff-resistant bags provide an over-all cover that is reported to protect chair finish against scratch damage all the way to the point of use. Because the bags can be applied swiftly and simply, says the company, packaging has been speeded up to the point where labor requirements are half what they formerly were. *Wax-impregnated bags by Thilmany Pulp & Paper Co., Kaukauna, Wis.*

Tagless tea bag saves 25%

A tagless tea bag with a heat-sealed paper dip tape is being used by the Tetley Tea Co., New York. Produced in two sizes (¼ oz. for home use; 1 oz. for hotel, restaurant and other institutional applications), the tagless bag is reported to effect a 25% saving in material cost compared with conventional printed-tag-and-string types.

The tape on the consumer tea bag is embossed with the packager's brand name, while the institutional unit carries no brand identification.

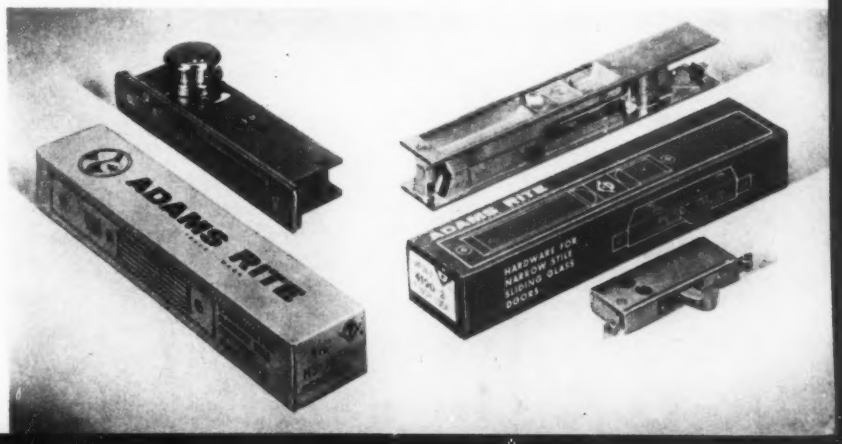
The paper dip tape is applied in a continuous, automatic operation on the same machine that forms, fills and seals the tea bag. As the first stage in the packaging job, a roll-fed web of porous paper—traveling horizontally—is formed into a U shape, then heat sealed vertically at predetermined intervals. After product filling and top sealing, the strip of tea bags travels to the tape-applying station. Here, roll-fed lengths of dip tape are affixed by heat and pressure to each bag. The tapes are automatically wound around the individual bags, which are then cut apart and ejected from the machine for cartoning operations. *Form-fill-seal machine by Bartelt Engineering Co., Rockford, Ill.*



'Double-design' carton serves for two related products

Adoption of a standard-sized carton and a simple, ingenious development in surface design has enabled Adams-Rite Mfg. Co., Glendale, Calif., to cut packaging costs by 25% and to reduce carton inventory by 75%. The company makes glass-door locks and latches.

The packager's product line is sharply divided between hardware for swinging doors and sliding doors. Four different types of carton formerly were used by Adams-Rite for these products, which are essentially similar to each other in size and shape. In a bid to cut packaging costs, the company assigned packaging engineer Warren Dan Houser to develop a new folding carton that would be adaptable to all products in the line. At the same time, advertising manager John A. Buzard set out to create a surface design that would enable a single carton to serve for both styles of product. His solution, as shown in the accompanying illustration, is a two-color design in which blue-on-white printing is used on two side panels and an end panel to identify swinging-door hardware, while white-on-blue printing on the other side panels and the opposite end panel identifies sliding-door hardware. Imprinting on the appropriate end panel controls shelf stacking so that the dominantly white or blue side is visible. *Carton by Fleischer Paper Co., 4171 Redwood Ave., Los Angeles 66.*



Cubical carton *with semi-rigid polyethylene liner is an effective container for highly corrosive liquid solvents, but required specially designed equipment for automatic packaging. Here, carton is shown at the 45-deg. angle in which it is filled and sealed. In this photo, a perforated front panel has been removed to show means of dispensing.*

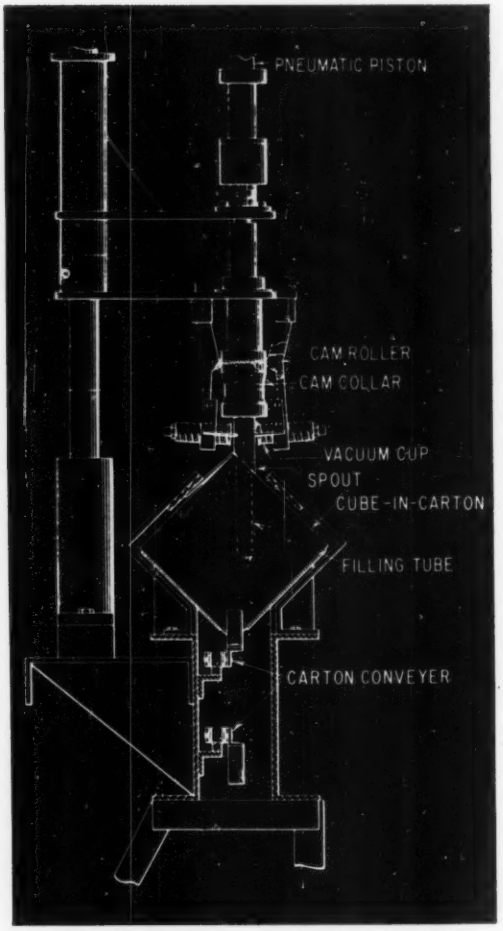
Mechanizing a liquid-fill carton

Simple straight-line equipment, built by the packager, fills and closes 1-gal. acid container with semi-rigid polyethylene liner; output is boosted 120% with 60% less labor

A frequent problem with packages of special design or unusual construction is the lack of equipment with sufficient speed and automatic action to handle them. Such was the case when the Process Solvent Co., Inc., Kansas City, Kans., adopted a polyethylene-in-carton container* for five of its acid solvents. But so suitable was this corrugated carton with its semi-rigid plastic liner to contain and dispense corrosive liquids that the company decided to engineer its own automatic line for the complete packaging operation.

The result is a straight-line filling, heat-sealing and carton-closing set-up that cuts labor 60% and raises output 120% compared with a previous hand-loading method. Output of the new line is reported at four and a half 1-gal. packages per minute with

* See "Two New Ways for Battery Acid," Modern Packaging, April, 1958, p. 134.



the use of a maximum of only three operators.

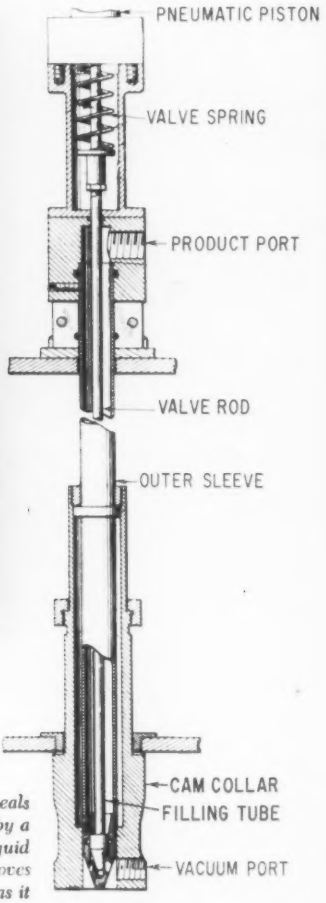
Of top interest to all packagers of liquids is the simple, yet ingenious, mechanical technique employed to open a protruding oval spout on the plastic liner and fill the corrosive products without the formation of fumes. Heat-sealing and closing devices also have been specially built by Process Solvent ($500,000 gross, 15 employees).

The gallon containers, which are light in weight, economical and highly resistant to breakage, are received in two parts by the packager: (1) cubical semi-rigid polyethylene liners with integral pour spouts, which are shipped partially collapsed and nested, and (2) corrugated folding cartons with "automatic" flaps on the bottom and glue flaps on top, which are shipped flat. After the liner has been inserted by hand into the erected carton, the plastic cube is inflated by hand with an air hose. The carton is then ready for the packaging operation.

As mechanical action starts, the empty packages are riding on an angled lug chain, which carries them through the packaging operations tilted 45 deg. so that the plastic spouts point upward; the flaps are held open by guide bars. The conveyor operates with an intermittent motion, governed by a magnetic clutch and an electric brake.

At the single filling station, the plastic spout is aligned by a pair of wing-like guides attached to two vacuum cups, which actually do the opening. Mounted on the filling assembly, these cups are actuated by a cam-like collar on the filling tube, which first directs the cups against the facing sides of the oval-shaped spout, then draws them apart to spread the sides of the spout. As this action is taking place, the filling tube is lowered by positive pressure in a pneumatic cylinder and is inserted

Straight-line set-up *for handling polyethylene-in-carton containers includes a single filling head (left center), equipped with vacuum cups that spread the plastic spout on the package, and sealing mechanisms for the spout and carton flaps (right). Packages travel from left to right and are propelled by a chain conveyor.*



Filling tube *in cross-section reveals internal valve rod that is raised by a pneumatic piston (top) to start liquid flow. Vacuum port (bottom) removes excess product from filling tube, as it is raised, to prevent corrosion.*

Details of filler *show how vacuum cups spread the spout on the plastic liner, allowing the filled tube to enter the package. Cam rollers, passing over the contoured cam collar, control action of these cups.*

deeply into the liner to avoid both splashing and the generation of acid fumes. When the filling tube is in place, air pressure in a second cylinder is released and a spring raises an internal valve rod, which starts the product flow.

To prevent corrosion of the filling tube, a vacuum pulled through an orifice in the outer casing of the filling mechanism removes all liquid from the filling stem as it is retracted from the filling position. This liquid is then separated from the air stream in a vacuum separator to protect the vacuum pump. The filling operation is timed by means of electrical switches which are located on the filling head and which operate a central timing control.

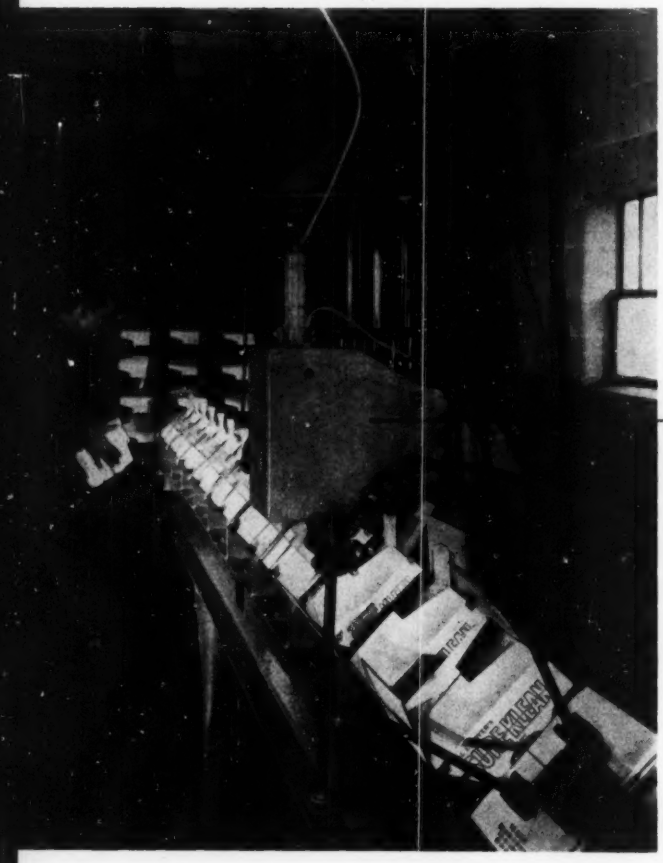
Next, the packages are conveyed to the sealing section, where reciprocating jaw-type heat sealers close the top of the spout. Here, too, time and temperature are governed by an accurate controller. A second pair of water-cooled jaws, below the heat sealers, prevents overheating of the plastic spout.

Leaving the heat sealer, the packages travel under spray nozzles, which apply adhesive to the carton flaps. The flaps are then closed with fixed bar plows, which also fold the pouring spout inside the carton. The flaps are held under compression by a belt that is mounted over the conveyor and travels at the same rate of speed as the packages.

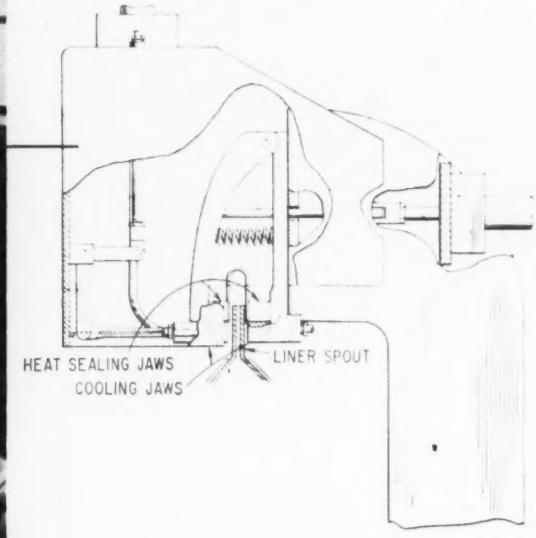
A perforated section in one of the carton flaps over the pour spout enables the package to be opened easily. For dispensing, the top of the plastic spout is clipped off and the carton is tilted for pouring.

While Process Solvent normally runs the line at three containers per minute with two operators, production can be raised to four and a half cartons per minute when needed with the addition of one more worker at the carton set-up station. The company will make the design for this patented equipment available to interested packagers.

SUPPLIES AND SERVICES: "Cubitainer" polyethylene liner by Hedwin Corp., 1600 Roland Heights Ave., Baltimore 11, Md. Corrugated carton by Olin Mathieson's Packaging Div., West Monroe, La.



Heat sealing *of plastic spouts is performed in a jaw-type unit that overhangs the packaging line (left). Spray nozzle (foreground) then applies glue to the top flaps of each corrugated carton, which are finally plowed shut and held under compression (bottom right). Both heating and cooling jaws are used to prevent distortion of the spout (see diagram, below) and are actuated by two pistons.*



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ENGINEERING

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Adhesion promoters for PE

Use of organic titanates as primers to improve the bonding of polyethylene coatings to smooth substrates.

By C. L. Gray, Jr., W. L. MacCarthy† and T. F. McLaughlin, Jr.***

Paper has long been the workhorse in the flexible packaging field, with cellophane following as a relative newcomer. In addition, within the past generation, newer materials such as films of polyethylene and polyesters, and convenient forms of older materials such as thin foils of aluminum, have become important packaging materials.

It often happens that one of these materials will satisfy all but one or two basic requirements in a packaging application. To compensate for such a situation, it has been possible to combine one material with another to provide a combination of the two having all the required properties.

The advantages and limitations of individual materials in film form have been catalogued by several authors (1)† and it is not the interest of this paper to cover the same facts. Instead, we will discuss the technology of combining several flexible materials with polyethylene by extrusion coating and how a stronger union between the polyethylene and the flexible material has been achieved by the use of organic titanate adhesion promoters.

*Technical Representatives, Dyes & Chemical Div., Organic Chemicals Dept., Technical Laboratory, Deepwater, N. J.; †Technical Representative, Polyolefins Div., Polychemicals Dept., New York, and **Technical Representative, Polyolefins Div., Polychemicals Dept., Technical Services Laboratory, Wilmington, Del., all of E. I. du Pont de Nemours & Co., Inc.

Processing factors

The extrusion coating of polyethylene onto smooth substrates such as cellophane, polyester films and aluminum foils presents problems that are different from those encountered in coating fibrous paper materials. Adhesion to fibrous substances depends to a large extent on the surface structure and its ability to be penetrated by the molten polyethylene to effect a mechanical bond. With smooth sub-

†Numbers in parentheses identify Reference appended.

Figure 1 PRIMER APPLICATION

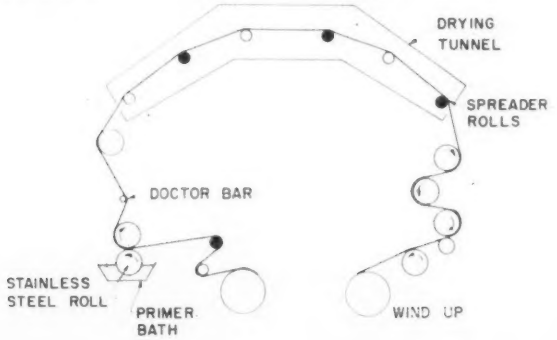


Figure 2 POLYETHYLENE EXTRUSION

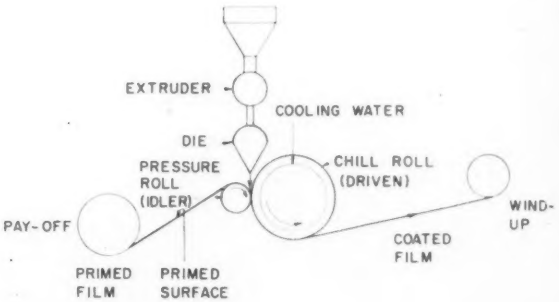
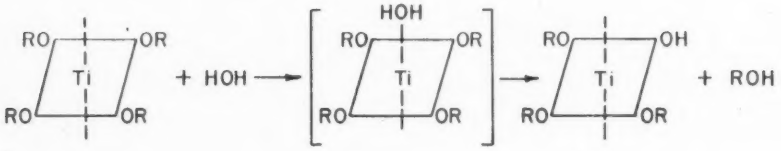


Figure 3

HYDROLYSIS



TITANATE ESTER

strates, on the other hand, the adhesion of the molten polyethylene requires complete surface "wetting" to effect the uniform spreading and intimate contact needed to bond via inter-molecular forces.

Polyethylene is inert and essentially non-polar, which poses a problem in achieving good bonding to a smooth substrate via inter-molecular forces. Two common methods of solving this problem are available: (1) coating the smooth substrate with an adhesion promoter and (2) controlled air oxidation of the molten polyethylene surfaces in the air gap between the extrusion die and the nip of the pressure and chill rolls. (Figure 2.)

The latter method, though a solution to one problem, can be the cause of new ones in both processing and in product quality. For example, the use of a longer air gap with higher melt temperature (to increase surface oxidation) can make gauge control and web handling difficult. A recent publication (2), which covers extrusion coating in some detail, points out that the greater surface oxidation (which occurs on both sides of the molten polyethylene web) may result in problems of odor and heat sealing with the exposed surface. For this reason, great interest in the use of adhesion promotors (primers) has been shown in the industry. One of the first primers, and one which is still rather widely used, is the family of organic titanate esters.

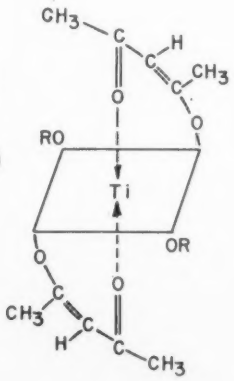
Primer application

The basic steps in the application of organic titanate primers to smooth substances involve:

1. Dissolving of the primer compound in a suitable type of solvent solution;

Figure 4

CHELATED ESTER (TITANIUM ACETYLACETONATE)



2. Continuously applying the solution on the substrate as a thin, uniform coating;

3. Subjecting the coating solution to processing conditions to evaporate the solvent, to complete the chemical reaction and to remove the volatile products of these reactions.

Primer application has been performed with printing equipment as well as with continuous laminators. (See Figure 1.) The substrate passes through the nip of two rolls, one of which turns through the primer-solution bath, depositing the thin coating onto one side. This wet surface then passes over a doctor bar to spread the coating and to remove any excess. The quality of primer application can often be judged by observing the moving surface beyond the bar where color-interference patterns, caused by the drying solvent, should span the entire width.

A most important factor contributing to a good primed surface is the careful application of this thin, clear primer solution by using a smooth roll. The solvent selected must be able to wet the smooth surface and excess solution must be removed to prevent too heavy a coating. The primer-solution bath should be clear, with no appreciable cloudy products resulting from premature reaction.

The maximum speed at which the wet substrate can pass through the drying oven and which will accomplish all desired processes is governed not only by time and temperature, but also by humidity and air flow. A web-surface temperature of from 200 to 230 deg. F. should be reached before leaving the oven. Humidity affects the extent of the chemical reaction, which will be incomplete if sufficient moisture is not present. In such cases, the reaction will finally go to completion outside the oven. This usually results in odor problems during roll storage or poor adhesion of the polyethylene following in-line operations. One method which will help to overcome this particular problem is the addition of a small amount of steam into the drying oven.

Polyethylene extrusion coating

A schematic diagram of the polyethylene extrusion-coating operation is shown in Figure 2. Here the substrate is passed under a long, flat die from which a molten polyethylene web is extruded onto

the primed surface. Almost instantaneously, a pressure roll pushes the two structures against a metal chill roll which solidifies the polyethylene under pressure. The final wind-up follows after allowing a sufficient period for the web to cool.

As previously discussed, proper adhesion is dependent upon complete wetting of the primed surface by the molten polyethylene. Complete wetting, in turn, is dependent upon resin properties and processing factors. One of the most critical of the processing factors is the temperature of the melt as it strikes the primed surface. To date we have no simple method to measure temperature of the melt at the nip. In all our work we used the stock temperature in the extrusion die and its adaptor as the temperature guide; all other known extrusion-coating variables were maintained constant.

Organic titanate esters

The activated primed surface results from the hydrolysis of titanate esters. This chemical reaction is shown in Figure 3, in which the ester has OR groups at the four valence positions of titanium.

Two dotted lines are shown, representing two coordinate valence positions where elements such as oxygen or nitrogen can donate electrons to form loose bonds. There is evidence to suggest that the hydrolysis of a titanate ester is first dependent upon the attraction of water to this coordinate position before it transfers to one of the regular valence positions to release an alcohol molecule (ROH). This, of course, can be carried out until all four OR groups are replaced by OH groups in order to complete the hydrolysis.

This mechanism suggests two ways to control hydrolysis: (1) the choice of the alkyl group and (2) the blocking of the coordinate valence position. Esters derived from long-chain alcohols hydrolyse more slowly, due to their lower compatibility with water. Chelation, or blocking, of the coordinate position can also stabilize the product against hydrolysis. The acetylacetonate ester, one example of a chelated molecule, can form stable water solutions with an acid. (See Figure 4.)

The hydrolysis reaction must be carefully controlled to form the final priming surface film of TiO_2. To illustrate incorrect surface film formation, we applied a thick coating of a tetraisopropyl titanate in n-heptane solution to a glass slide and observed the results shown in Figure 5.

A skin formation was noted shortly after the coating was applied. This was the start of hydrolysis. Next, the skin cracked and much surface wrinkling was observed, which suggested that strains developed as the solvent evaporated and hydrolysis progressed. Later, the entire surface became a mass

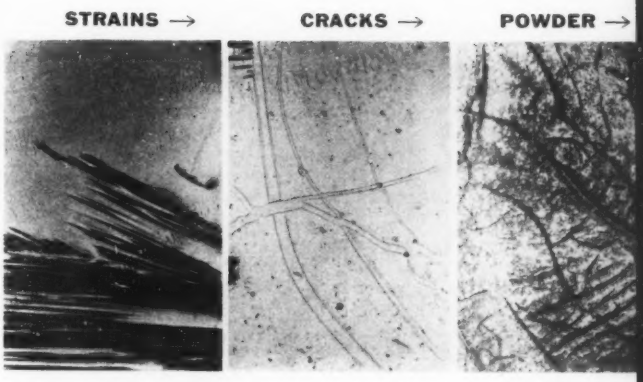
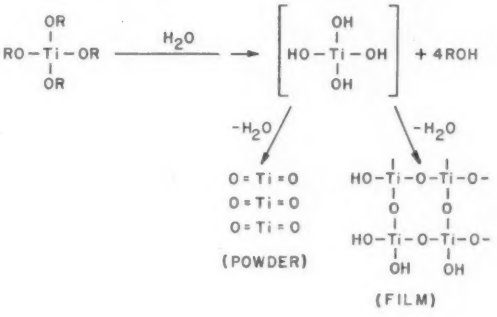


Figure 5. *Three upper photos illustrate the unsatisfactory results when a thick coating of a tetraisopropyl titanate in n-heptane solution was applied to a glass slide. Lower photo shows that when the titanate ester solution was applied extremely thin with a doctor blade, a highly reflective and continuous surface film resulted.*

Figure 6

HYDROLYSIS TO TITANIUM DIOXIDE



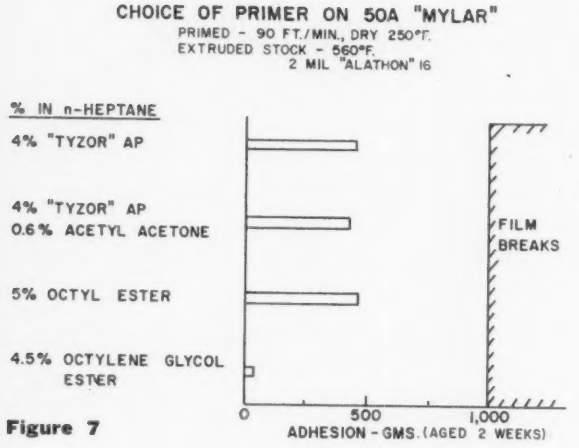


Figure 7

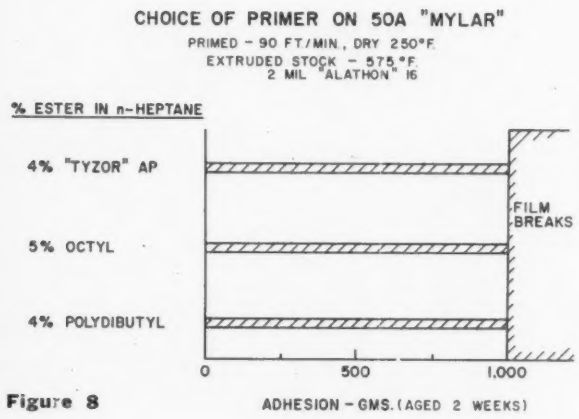


Figure 8

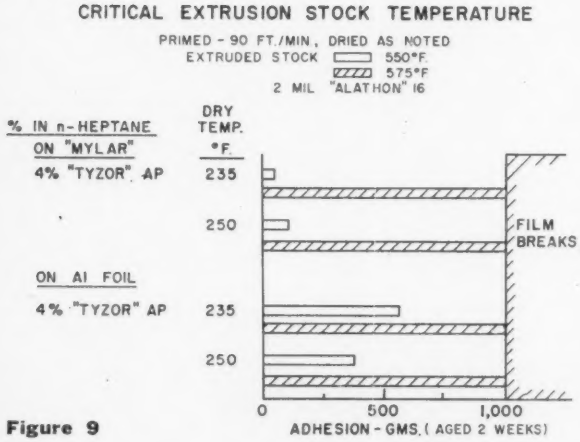


Figure 9

of cracks, resulting in a white powder which showed no adhesion to the glass slide.

When the titanate ester solution was applied extremely thin by means of a doctor blade, a highly reflective and continuous surface film resulted. This showed definite adhesion to the glass—in fact, to the extent that abrasive cleaning was required to remove it. A correctly applied surface primer should form such a continuous surface film.

A possible chemical basis for the differences observed above can be illustrated by the reaction which is shown in Figure 6.

It will be noted that in this simplified form the titanium hydroxide molecules can form either individual TiO_2 molecules, or can form a polymeric surface film constituting the desired primed surface.

Improved primer development

One of the first products compounded for use as a primer by Du Pont was "Tyzor" AP organic titanate. This product is an equilibrium mixture of four parts tetraisopropyl titanate and one part tetrastearyl titanate. It is used in anhydrous solvent systems under conditions that prevent the possibility of premature hydrolysis.

The titanium acetylacetonate ester (discussed in the previous section), "Tyzor" AA, is a more stable product and can be used in both water and solvent systems. It gives good results but, as expected, in water systems the chelated molecular structure shown in Figure 4 causes slow hydrolysis. This, coupled with the slower evaporation rate of the water solvent, limits the processing speed.

Recently we initiated a program to find a more satisfactory primer. Concentration was on an organic solvent system, because most printing and laminating equipment is designed for such systems.

"Tyzor" AP, being a product already in use, was adopted as our control in this program. Most of our work was conducted on 50-gauge "Mylar" Type A, but discussions include other substrates. The solvent which was used in all except one case was n-heptane. The points discussed are performance comparisons between various titanate esters and the effects of varying operating conditions.

The adhesion results reported were measured by peeling strip samples, 1 in. wide, on an Instron tensile tester at a rate of 12 in. per minute. These results, expressed as grams per inch of width, represent the peak forces measured in peeling. Each value represents an average of five such measurements. Special note was made when the delaminated polyethylene film broke; this meant that the primer bonding exceeded the film strength.

It was not possible to evaluate priming and extrusion-coating conditions individually because

good adhesion results from an interrelation of both.

For this discussion, the following abbreviations have been adopted to conserve space on the graphs:

"Tyzor" AP	4 pts. tetraisopropyl titanate 1 pt. tetrastearyl titanate
Octyl ester	Tetrakis (2-ethylhexyl) titanate
Polydibutyl ("Tyzor" AC)	Poly (dibutyl titanate)

Figure 7 shows the results of a preliminary primer evaluation. In this work we did not achieve satisfactory adhesion due to low (560 deg. F.) polyethylene stock temperature.

The octyl ester showed the same adhesion as did "Tyzor" AP and its primer-solution bath, as expected, was more stable due to the slow hydrolysis of the longer alkyl chains (—R). The octylene glycol ester, though showing the excellent bath stability expected from a tightly chelated ester, gave poor adhesion due to difficulty in subsequent hydrolysis on the "Mylar" surface. "Tyzor" AP, combined with acetylacetone as a chelating stabilizer, had a slower hydrolysis rate and longer bath life.

In the next evaluation, the extrusion stock temperature was raised (to 575 deg. F.) and the adhesion improved to the extent that the polyethylene film broke before the primed bond. Results appear in Figure 8. We also introduced poly (dibutyl titanate) ester at this time. Its slower hydrolysis rate and good performance were recognized.

We have already mentioned the importance of maintaining the proper temperature of the molten polyethylene web at the nip of the chill and pressure rolls. Figure 9 illustrates the effect of two different extrusion stock temperatures (550 and 575 deg. F.) with "Tyzor" AP. It can be seen here that a difference of 25 deg. F. in this important processing variable can mean the difference between good and unsatisfactory adhesion of the polyethylene on the polyester film. Even an increase in oven temperature during priming does not compensate for insufficient stock temperature in the subsequent polyethylene extrusion coating. On aluminum foil, we found that adhesion is more easily obtained than on a polyester for the same lower stock temperatures.

Having found two possible improvements over "Tyzor" AP, the octyl and poly (dibutyl titanate) esters, we proceeded to check these under varying conditions on different substrates. Figures 10, 11 and 12 show the adhesions measured for these three primers on three different substrates under two extremes of polyethylene-stock temperature (550 and 600 deg. F.). For this particular work the speed of priming was increased from 90 to 250 ft. per minute to simulate plant conditions.

Again, we found the [*Continued on page 243*]

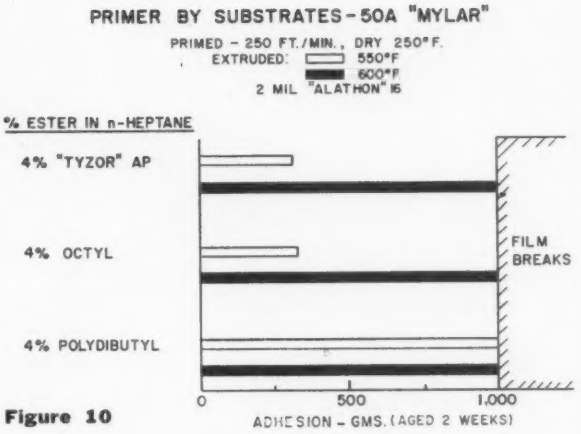


Figure 10

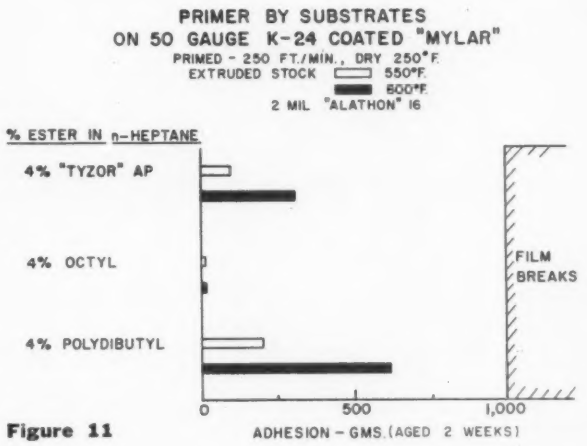


Figure 11

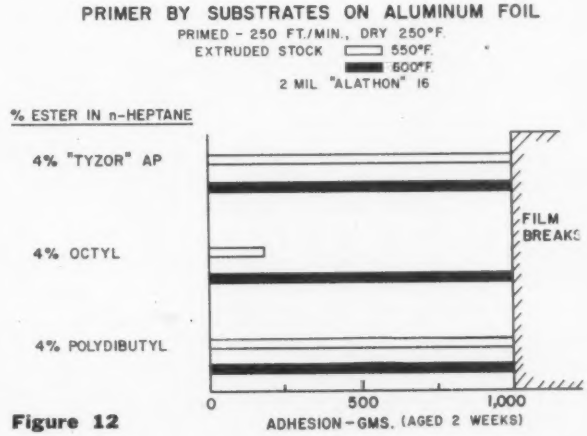
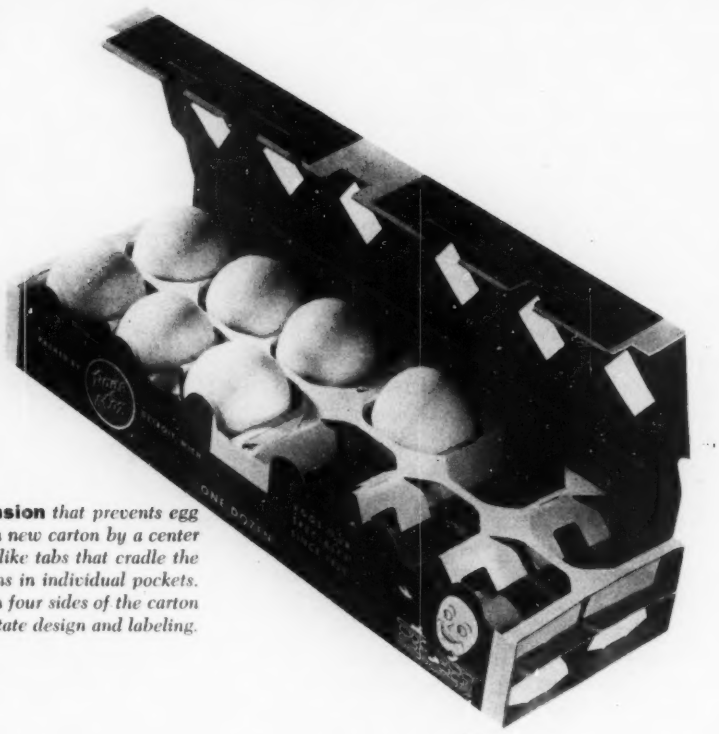


Figure 12



Floating suspension *that prevents egg breakage is provided in new carton by a center platform and spring-like tabs that cradle the delicate items in individual pockets. Unobstructed panels on four sides of the carton facilitate design and labeling.*

Improved egg-cell carton

A report on engineering research, aimed at better egg packaging, which involves not only a new one-piece folding blank, but a high-speed setting-up machine. *By W. E. Wilson**

The egg may be nature's perfect package, but its commercial packaging has had some lingering problems: breakage, leakage of broken eggs through an entire case, difficulty in removing eggs from the carton, limited space for graphic-arts design and inflexibility in accommodating eggs of many different sizes. The correction of these problems is further complicated by the need for high-speed carton forming or set-up machinery, which is required today by all modern high-production egg packers.

While the egg may be a special problem, the solution of this problem has much to offer, in principle, toward the successful packaging of many types of products which are delicate in nature.

For a number of years, a very substantial amount of package design, engineering effort and market research has been directed toward improvement of the egg carton. Now, at KVP Sutherland, a package design has been conceived in 24-point paperboard utilizing a single die-cut, folded and glued blank, with almost no board waste. Its features are:

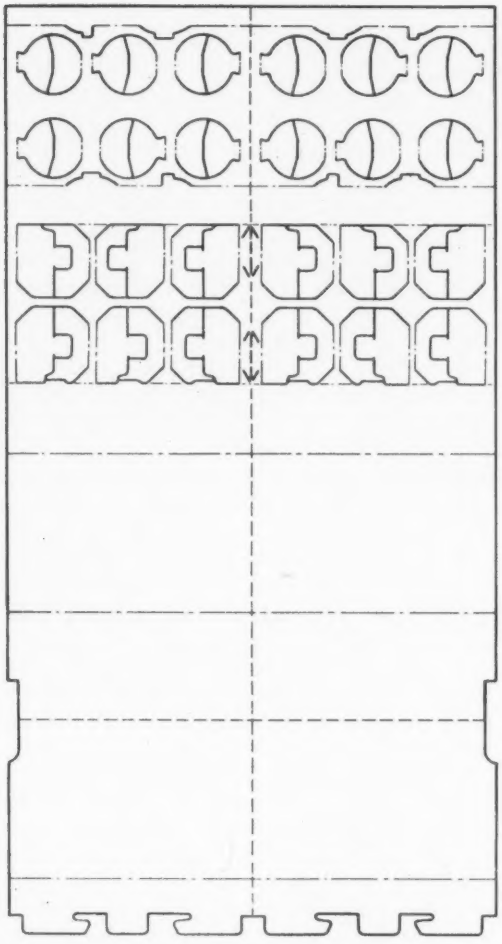
1. *Product protection.* A unique suspension platform is employed to minimize product breakage and a solid base panel reduces the chance of leakage from a broken egg to other cartons.

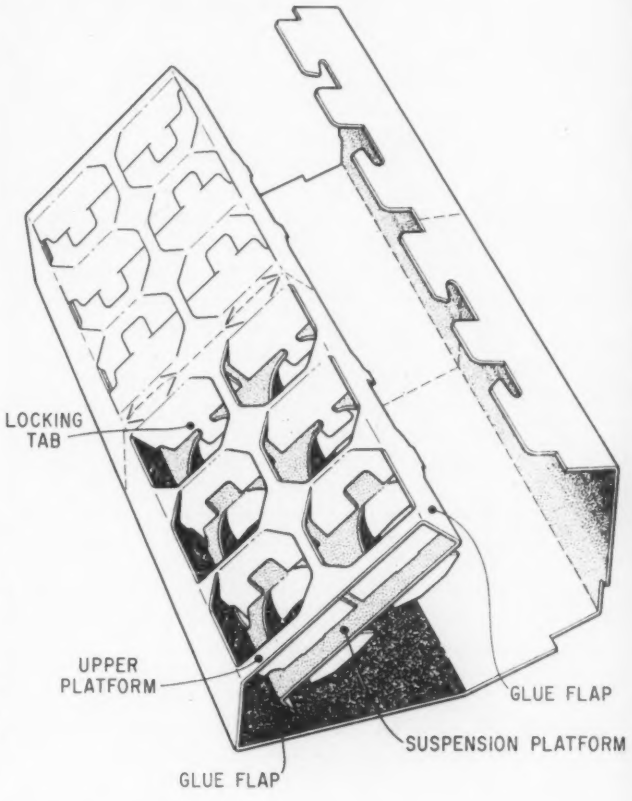
2. *Ease of stacking.* Flat top and bottom panels permit neat arrangement of the cartons in retail display cabinets and in the home refrigerator.

3. *Range of loading.* The new carton accommodates all egg shapes from pullets to jumbo size and does not crush those of the larger sizes.

4. *Convenience.* Construction of the internal cells of the carton makes it easy for the consumer to remove the eggs from the package.

*Manager, Product Planning Dept., KVP Sutherland Paper Co., Sutherland Div., Kalamazoo, Mich.





Construction details *of the one-piece carton are shown in exploded view (below) and in diagram of the paperboard blank (left). Two gluing surfaces anchor the suspension platform in place and each pocket has at least one locking tab to add support and rigidity. Other tabs act as springs to cushion eggs. Some unfolded tabs are shown in exploded view to illustrate die-cutting pattern.*

5. *Adaptability to graphic design.* Unbroken surfaces on the top, sides and bottom of the carton provide maximum space for presenting eye-catching illustrations, trademarks and recipes.

6. *Machinability.* The pre-glued and flattened carton can be set up at the rate of 85 per minute on a new compact and automatic machine, which is a collateral result of this research.

In order to prove out the carton principle, a clay-coated newsback board of special formula was run and made into cartons. A small hand jig was constructed to set up these cartons, which were then packed with eggs in a commercial egg-packing plant.

These were market researched through the distribution channels and retail outlets, checking for such things as ease of handling, filling and packing in the egg plant; performance through distribution channels, and ease of handling and stacking in the retail outlet. Breakage was checked at each stage. Then, particular emphasis was placed on consumer research by following the packages directly into homes, where exhaustive checks were made on the reactions of housewives to the new container.

Carton construction

In the new Saf-T-Cell[1] carton, protection for the egg is achieved by means of a die-cut and folded center shelf with round cells that cradle the eggs and hold them above the floor of the carton. The eggs never touch the bottom surface and are floated in suspension on a "cushion" of air. An upper platform with die-cut tabs prevents lateral motion of the eggs. The two platforms are tied together by folded and locked tabs that create transverse braces of high structural strength. Further rigidity is provided by a longitudinal partition that also separates the two rows of eggs. The center shelf is glued to the sides of the carton for additional strength. Extra flaps between each locked cell, which touch the

[1]A trademark of KVP Sutherland Paper Co.

bottom panel, also give the eggs vertical support.

The air space under the carton cells gives room for large and long eggs, and thus avoids bulging of the top panel. At the same time, more overhead room is available so that the round cells can hold the eggs higher in the carton where they can be more easily removed by the housewife.

One of the outstanding advantages of folding egg cartons in general is the wide printing surface they provide for brand identification and eye appeal. This new carton has the added advantage of straight sides and a flat bottom panel. Thus, attractive surface designs can be printed on the unbroken top and side panels, and the bottom panel can be printed with recipes or promotional messages. The clay-coated surface of the paperboard provides a fine printing surface for subtle designs.

Also, the carton may be perforated across the middle for dividing into two half-dozen units and the top panel is perforated at the fold, so that it can be easily removed at home to make a convenient refrigerator tray. Construction of the transverse partitions facilitates automatic loading of the eggs. It is believed that these advantages outweigh the slightly higher price of this carton over other types.

Set-up machine

These cartons are set up on a simple new machine, which handles the containers at a rate of more than 85 per minute. Weighing 600 lbs., this unit is set on swivel casters for portability and can also be locked for stationary operation. All operating elements are spring actuated for safety.

In operation, the pre-glued and flattened cartons are pulled from a hopper by feed fingers, which engage notched corners in the carton lid. Indexed to the forming station, the cartons are opened and held in position by means of four fingers for the folding of the internal cells.

Performance of this latter operation necessitates folding the die-cut partitions into position and locking them. This is accomplished by means of specially shaped dogs that rotate into the carton and press the partitions into place. The action is initiated by a rack-and-pinion mechanism that operates the 12 pairs of dogs simultaneously.

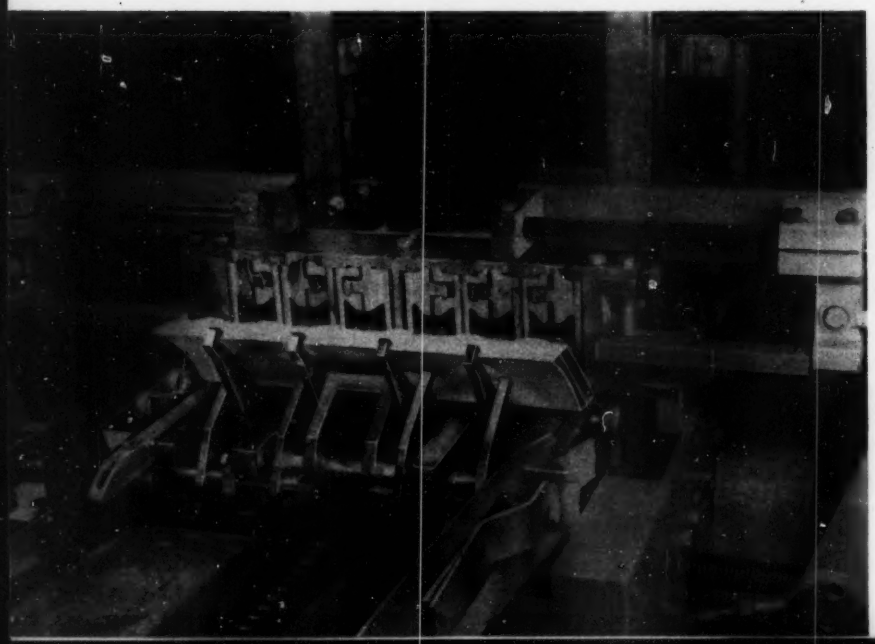
Following the carton set-up operation, the forming fingers retract and the carton is pushed onto a discharge belt. The discharge conveyor, a center chain device, has one dog that is positioned to sweep this machine section clear after six cartons have accumulated and transfers the grouped cartons to standard hand or automatic egg-loading equipment.

A switch automatically stops the machine when the stack of cartons is reduced to a predetermined minimum in the hopper and an imprinter is included for code dating the cartons.

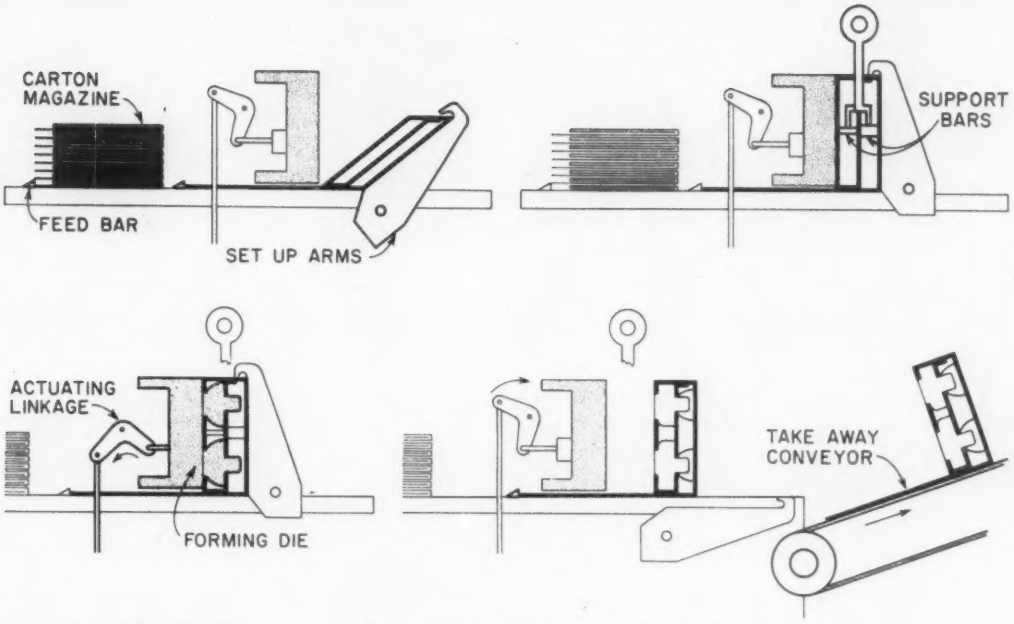
After the carton is set up and filled, the top is plowed over and locked. This operation may be performed by a number of units currently in use or with a new companion unit to the erection machine.

Market tests

First market tests of the new egg carton showed considerable promise, but also revealed some minor weaknesses in carton construction. After revising the design, a second market test was conducted in cooperation with Page & Cox, large egg packers in Detroit. Page & Cox's regular folding carton was used in the test as the control carton.



Set-up machine *used in the egg-packing plant is a simple unit that handles cartons at 85 per minute and ties in with standard packing and closing equipment. The four set-up arms (center) open the pre-glued carton and hold it against the forming die, which is equipped with specially shaped dogs that fold the die-cut tabs into place. Support bars (left and right) are slid into the carton during the operation to hold it rigid.*



Sequence of operation *on set-up machine is revealed in these four schematic drawings. Carton is fed into position and set up by arms (top two drawings), dogs on the forming mandrel then open to fold die-cut partitions (center) and finished carton is ejected on take-away conveyor (bottom).*

Conditions of this market test were severe. Only extra-large eggs were used, which at that time of year (fall) were very brittle and thin shelled, occasioning the highest incidence of breakage. The cartoned eggs were packed in shipping cases of 15 dozen. Each shipping case contained five layers of three cartons each and no cushioning material was used between the layers.

Results of this test indicated that:

1. Egg damage in the new cartons was considerably lower than in the standard control cartons.

2. Store managers, clerks and Page & Cox officials were highly satisfied with the performance record of the improved carton.

In the retail stores, 600 of the new cartons were opened and examined. Damaged eggs were found in only 2.3% of these cartons. Of the 555 control cartons opened, 8.7% contained damaged eggs.

In terms of individual eggs damaged, the new cartons proved even more effective. Of the 7,200 eggs in the new cartons, only 15 were damaged—or 0.21%. Of the 6,660 eggs packaged in the control cartons, 50 were damaged—or 0.75%.

Of all the damage found in the new cartons, 53.3% occurred in the bottom layer of the shipping cases. Subsequent changes made in die cutting and scoring strengthened the side walls of the carton.

A second phase of the Detroit market test was designed to measure consumer acceptance of the new carton by means of mail-back questionnaires inserted in both the new and control cartons. Housewives commented on the convenience features of the cartons and, again, the new package rated superior to the control carton. The advantages of the new carton, according to the consumers, were: (1) It was easier to open, (2) it contained fewer broken eggs and (3) eggs were much easier to remove.

Asked to rate the package as "very good," "good," "satisfactory," "poor" or "very poor"—60.7% of the housewives rated the new carton "very good" and 21.4% rated it "good" for a total of 82.1%. In contrast, 25.2% of the users of the control carton rated it "very good" and another 25.2% rated it "good" for a total of 50.4%.

The final market test of the Saf-T-Cell egg carton took place at Page & Cox in the fall of 1960, when the cartons had been further improved and an automatic setting-up machine had been built. The machine worked smoothly in operation and the carton was then judged ready for marketing.

Conclusions

It is believed that the application of engineering methods to carton construction, plus close attention to marketing factors, has produced a folding egg carton with superior protective properties that is also capable of implementing the current trend to high design in the merchandising of this product. Coupled with a simple, yet effective, machine for high-speed forming, this carton offers new possibilities for economical packaging, effective display at point of sale and convenient home use.

HERCULES Packaging Hi-Lites

Modern polyolefins make handy, handsome packages

Functional, eye-catching, low-cost containers prove sales key to many markets

With self-service the modern king of marketing, the package now rules as the product's star salesman. Today's package must be more than a functional carrier or an eye-catching wrap. The *right* package is a complete merchandising tool: the base on which effective advertising is built; a container which reflects and protects product quality; an action-stimulating factor at the point of sale.

Packages made with modern polyolefins combine all these important features with another must: *low cost*. Both Hi-fax® high-density polyethylene and Pro-fax® polypropylene are now revolutionizing packaging concepts in such large volume markets as detergents, drugs, cosmetics and food, to mention just a few. They display the product right, protect it enroute to consumer, and help to close the sale—and all at a new low in packaging costs. Here's a look at some of today's exciting new packages, made possible by these new and better plastics designed to meet *modern* requirements.

The new SINGER Buttonholer package hinges on Pro-fax

They've been sewing buttonholes in garments for more than five hundred years, but never with equipment like this. Singer Sewing Machine Company's ultra-modern buttonholer attachment is designed to make short work of this intricate, time-consuming job. It's packaged in tune with the times in a high-styled, durable, *permanent* package molded with Pro-fax. Box and lid are made in one piece, with an integrally molded hinge that grows stronger with use. Molded-in compartments hold all the interchangeable templates in the unit conveniently in place.

Molded by Consolidated Molded Products Company, Scranton, Pennsylvania, for Greist Manufacturing Company, New Haven, Connecticut.

Hi-fax handles drug products, too

Eli Lilly and Company led the way in introducing plastic bottles for dry products with these attractive, compact containers blow-molded with Hi-fax. One-fifth smaller than the glass bottle required to package an equal number of tablets, they are only one-tenth the weight of a glass container. Hi-fax bottles can be in the amber color traditional for pharmaceutical packaging, or in exciting modern pastels.

Blow-molded by Continental Can Company, Chicago, Ill.

Pro-fax handles cream products

This IMCO double-walled jar is made of Pro-fax . . . an unlined jar which is impermeable enough to hold most cream products. Molded to match the dimensions and capacity of standard flint and opal jars, it is five times lighter than flint, lighter still than opal. Color possibilities are unlimited, breakage practically eliminated, and shipping costs greatly reduced. Another *modern* solution to a tough packaging problem made possible by versatile Hercules polyolefins.

Manufactured and distributed by IMCO Container Corporation, Kansas City, Missouri

Hi-fax handles new design concepts

When your new packaging idea calls for new concepts in material performance, Hi-fax often provides the solution. Improvements in plastic container engineering techniques, coupled with the superior plastic properties provided by Hi-fax, make this outstanding new IMCO package for Mennen's *Brake* a powerful merchandising tool. Hi-fax can handle your new concepts in containers, whether they be for detergents, drugs, cosmetics or household chemicals.

HERCULES POWDER COMPANY
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HERCULES

THREE NEW MATERIALS FOR THE PLASTIC INDUSTRY

HI-FAX® HIGH-DENSITY POLYETHYLENE • PRO-FAX® POLYPROPYLENE • PENTON® CHLORINATED POLYETHER CPG1-7

Figure 1. *Cellulose-acetate jars, in 16-oz. size, as they appear after rough-handling test. Note the side-wall crack in second jar from left. Far right is a jar that shows a typical test load.*

Evaluation of plastic jars

Rough-handling tests on four types of jars, studied as storage and shipping containers for small Ordnance parts, indicate further development is needed. By Richard H. DeVore*

The feasibility of using certain jars as storage and shipping containers for small Ordnance parts was recently investigated by the Plastics & Packaging Laboratory, Feltman Research Laboratories, located at Picatinny Arsenal, Dover, N. J. Advantages of lightness in weight, reclosable features and transparency (in some cases) were anticipated if the jars would meet the tests proposed for them. The evaluation was authorized by the Ordnance Ammunition Command, Joliet, Ill., and the test jars were furnished by a commercial manufacturing firm.

Test Jars

The jars were cylindrical production-line samples constructed with threads and a seating shoulder to receive the painted metal screw-on-type covers furnished. Each cover was approximately 0.035 in. thick and included a plastic-coated chipboard disk which was to function as a cover-sealing gasket. The reclosable feature of the jars had special appeal because it was intended to open and close the jars many times in actual usage while removing some of the small parts as needed for assembly.

The jars were manufactured in four plastic materials: high-density polyethylene, cellulose acetate, polystyrene and low-density polyethylene. The polystyrene and cellulose-acetate jars would be transparent and therefore would facilitate visual inspection and enable easy identification and count of the contents. Bottom and wall thicknesses of the jars were approximately 0.070 in. The jars for evaluation were furnished in the nominal sizes (by volume) listed in the data appearing in Table I.

Tests

The tests conducted to determine the suitability of the jars for Ordnance use were selected on the premise that the parts to be sorted and shipped would be subject to damage by water and water vapor. In addition, physical protection must be afforded. The jars appeared applicable to Military Specification MIL-P-116C "Methods of Preservation" under sub-method 1A 13 "rigid containers other than all metal, sealed."

The "quick-leak" test of the above specification (par. 4.4.3.2.1) is used under sub-method 1A 13 of the above specification for packages not exceeding 8 in. in any dimension. Since the jars were all well within this limit, the test was conducted. Briefly, the procedure followed was to submerge filled and sealed jars in water contained in a vacuum desiccator and draw a vacuum of 5½ in. (atmospheric pressure 29.9 in.) and hold that condition for 30 sec. while observing the submerged jar for air leakage. Jars were then inverted (when no leaks were evident in the original position) and the procedure repeated. Results appear in Table II.

Excessive dimensional tolerances in thread clear-

*Preservation and Packaging Specialist, Plastics & Packaging Laboratory, Feltman Research Laboratories, Picatinny Arsenal, Dover, N.J.

Table I: Test-jar sizes

Low-density polyethylene	*Cellulose acetate*	*Polystyrene*	*High-density polyethylene*
2 oz.	2 oz.	2 oz.	2 oz.
4 oz.	4 oz.	4 oz.	4 oz.
	8 oz.	8 oz.	16 oz.
	12 oz.	12 oz.	
	16 oz.	16 oz.	

Table II: Quick-leak test results

Low-density polyethylene	*Cellulose acetate*	*Polystyrene*	*High-density polyethylene*
2 oz., no leaks	2 oz., no leaks	2 oz., no leaks	2 oz., leaked
4 oz., no leaks	4 oz., no leaks	4 oz., no leaks	4 oz., leaked
	8 oz., leaked	8 oz., leaked	16 oz., leaked
	12 oz., leaked	12 oz., leaked	
	16 oz., leaked	16 oz., leaked	

Table III: Water-vapor transmission rates

(Gm. per 100 sq. in. per 24 hrs.)

Jars	*Value*	*Requirement*
Low-density polyethylene	0.02	A maximum of 0.07
Cellulose acetate	2.24	gm. per 100 sq. in.
Polystyrene	0.160	per 24 hrs.
High-density polyethylene	0.002	

Table IV: Weights of test jars and cartons

Jar size	*Gross weight, jar and contents*	*Gross weight, carton and contents*
2 oz.	0.25 lb.	2.20 lb.
4 oz.	0.32 lb.	2.75 lb.
8 oz.	0.75 lb.	5.25 lb.
12 oz.	1.25 lb.	5.75 lb.
16 oz.	2.75 lb.	12.00 lb.

ances and irregular lip edges, magnified in the case of the large-size jars, contributed to the failures.

Water-vapor transmission rates (WVTR) for the jars were also determined. Due to the results obtained in conducting the quick-leak tests (see Table II), it was considered advisable to guarantee an adequate seal between the jar and the jar cover when determining the WVTR for the jars. Therefore, a brush coating of a microcrystalline wax was applied to those joints in all jars subjected to WVTR determinations. ASTM Method D-895-51 was used for the determinations. The values shown in Table III were obtained, using 4-oz. test jars made of each of the materials.

Values listed in Table III show that the polyethylene jars meet the requirements for WVTR and that the polystyrene and cellulose acetate do not, with the latter, as expected, having the highest rate.

As was anticipated, the cellulose-acetate and polystyrene jars were highly transparent, making

Figure 2. *Low-density polyethylene jars, in 4-oz. size, after rough-handling tests. Note that covers became detached due to the stress of handling. Test container is in background.*

Figure 3. *Polystyrene jars after rough-handling tests. All were broken or badly split. The results indicate that such jars are not suitable for use in rough-handling conditions.*

Table V: Results of rough-handling tests

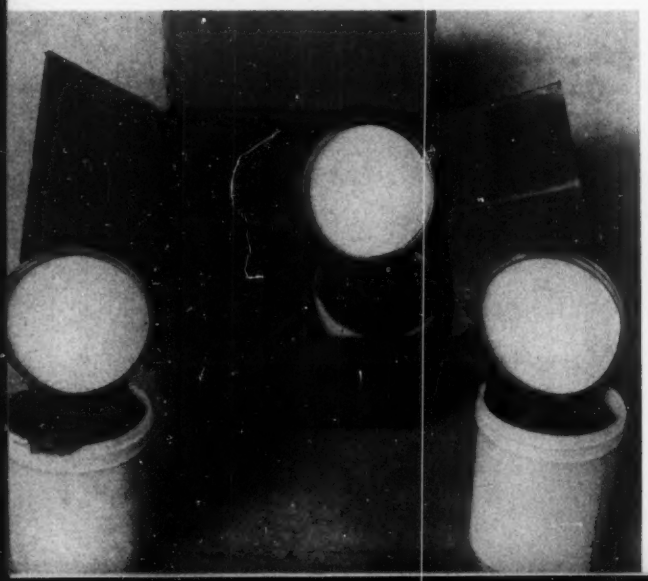
Jar size	*No. tested*	*Low-density polyethylene*	*Polystyrene*	*Cellulose acetate*	*High-density polyethylene*
2 oz.	Six	Six covers detached (no jar damage)	Four split, two fractured	Six intact	Six intact
4 oz.	Six	Six covers detached (no jar damage)	One split, five fractured	Six intact	Six intact
8 oz.	Six	———	Four split, two fractured	Six covers detached (no jar damage)	———
12 oz.	Four	———	Four fractured	Four covers detached (no jar damage)	———
16 oz.	Four	———	Four fractured	One split slightly, three covers detached	Four covers detached (no jar damage)

visual inspection of the contents easy. Low-density polyethylene jars made observation of their contents difficult, while it was impossible to see the contents of the high-density polyethylene jars. These results are to be expected of these materials when made in the thickness used in these test jars.

Simulated handling tests

The jars were subjected to the simulated transportation tests and the rough-handling tests used for packages designed for domestic shipments by the Army Ordnance Corps (domestic shipment rough-handling procedure). This procedure consisted of a 2-hr. vibration test followed by two 4-ft. falls and 48 falls in the revolving drum. Jars in all sizes submitted (see Table I) were prepared for transportation and rough-handling tests as follows: Each jar was filled with metal washers, screws or other small metal parts and a filler pad of cellulose wadding placed on top of the contents next to the cover to prevent appreciable movement of the contents. Covers were then screwed on hand tight. Jar weights and contents are listed in Table IV.

Figure 4. *High-density polyethylene jars after rough-handling tests. The covers were detached, but the jars were not damaged.*



The filled and sealed jars were then placed in egg-crate separators within corrugated fibreboard RSC cartons. All cartons, separators and fillers were made from ⅛-in., B-flute, double-faced corrugated fibreboard of 200-lb. bursting strength. The jars of nominal sizes, 12 and 16 oz., were packed four to the carton, in two-by-two pattern; the other jars, six to the carton in three-by-two pattern.

All filled test cartons were sealed with pressure-sensitive tape (Fed. Spec. PPP-T-76) and subjected to simulated transportation tests and rough-handling tests. A 2-hr. period attached to the platform vibration machine is estimated to simulate a truck or railway trip of approximately 1,500 miles. The vibration machine is operated at 550 RPM with an eccentricity of ⅛ in. and a total excursion of ¼ in.

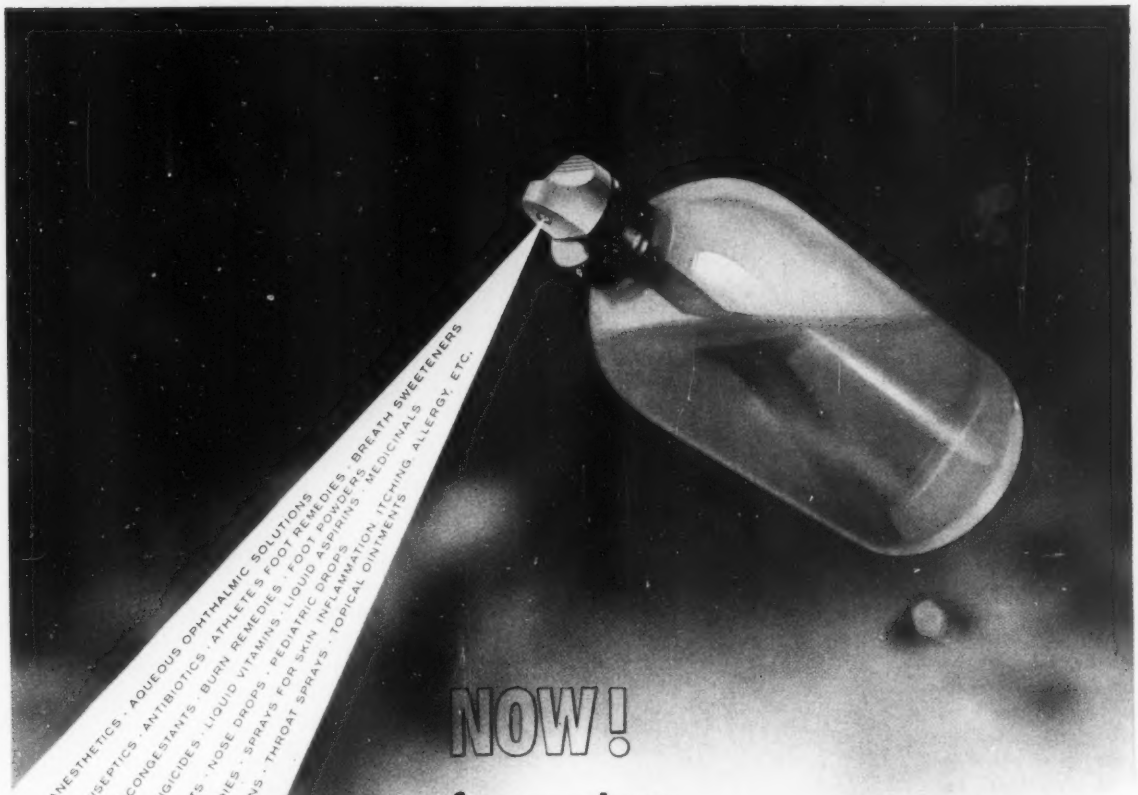
Immediately following the vibration, the cartons were all opened and the contents examined visually for evidence of damage. There was no evidence of damage to the jars and no covers were loosened. The cartons were resealed with tape as before.

Next, each carton, with contents, was subjected individually to: (a) A free fall from a 4-ft. height so that one corner absorbed most of the impact. This height was selected since it approximates the height of a box-car floor or a truck tailgate. (b) Test cartons were placed, one at a time, within the 14-ft. revolving drum for 24 falls. The drum revolves at approximately 1 RPM and has six flat surfaces, each of which is counted as one fall. Baffles affixed to the flat surfaces cause the packages being rough handled to be carried for short distances and then to fall back, subjecting all surfaces to impact in all positions. Next, (a) was repeated except that the second 4-ft. fall was directed to the corner of the carton diagonally opposite to the corners of each carton impacted by the first fall. Finally, 24 additional drum falls for each carton as in (b).

Test results

Following the rough-handling test, the cartons were very carefully opened and the jars observed for damage. The following damage was noted:

Cellulose-acetate jars [*Continued on page 229*]


ANESTHETICS · AQUEOUS OPHTHALMIC SOLUTIONS
ANTISEPTICS · ANTIBIOTICS · ATHLETE'S FOOT REMEDIES · BREATH SWEETENERS
BRONCHIAL DECONGESTANTS · BURN REMEDIES · FOOT POWDERS · MEDICINALS
FOOT SPRAYS · FUNGICIDES · LIQUID VITAMINS · LIQUID ASPIRINS
NASAL SPRAYS · NASAL INHALANTS · NOSE DROPS · PEDIATRIC DROPS
PHARMACEUTICALS · POISON IVY REMEDIES · SPRAYS FOR SKIN INFLAMMATION, ITCHING, ALLERGY, ETC.
SPRAY BANDAGES · TANNIC SPRAY FOR BURNS · THROAT SPRAYS · TOPICAL OINTMENTS

NOW!

for products that "couldn't be pressure packaged!"

Here's a container that resists chemical action. The Owens-Illinois plastic-coated glass pressure package is inert, does not affect the product it contains.

Plastic coating is permanently bonded to the glass for ruggedness and durability. It won't peel off.

Coatings are available in a variety of colors, including some that are translucent, like the one illustrated. The user can see how much product is left in a translucent container—knows when to order more.

O-I pressure packages come in many shapes and sizes, as well as colors. They may be decorated to give your product a unique appearance.

For further information or samples, call the nearest Owens-Illinois office today.

DURAGLAS CONTAINERS
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO
PACIFIC COAST HEADQUARTERS · SAN FRANCISCO

Questions & Answers

This consultation service on both technical and engineering subjects is available at your command. Simply address your questions to the Technical Department, Modern Packaging, 770 Lexington Ave., New York 21. Your name or other identification will not appear with any published answer.

Spot-seal closure

Q: *We would like to close the dispenser opening in the top of a package with an easily peelable sticker such as is used on salt containers. How can we do this automatically?*

A: We suggest that you use a sticker coated with a pressure-sensitive adhesive. Such seals or "labels" are available in either tape form, or as individual stickers in any desired shape, mounted on a continuous roll of release-coated paper.

Equipment for handling these materials is varied and is available in virtually any desired speed range. Basically, most units consist of a head that is mounted over a product conveyor and which will accurately spot a sticker or strip of tape on the top of a package.

Such machines can also be equipped with imprinters or code-stamping devices for labeling or control purposes. The registration control must generally be adjusted individually for each type of package and if the dispenser closure on your package is irregular or has a tendency to spring, it might be necessary to modify the taping head a little to accommodate this variation from a flat surface.

Product finish reacts to film

Q: *One of our products is a painted and varnished wooden item. The package for these products is a paperboard base with transparent overwrap. We have used both cellophane and polyethylene film as overwraps, with equal success, except for one problem: The product is tightly in contact with the film and we have had complaints of serious sticking of one to the other during the summer months. Our reports show that sticking occurs with any of the cellophanes we have tried and also with polyethylenes from several sources. Can you suggest any other packaging films that would not adhere to this type of a product?*

A: Since you have tried various types of cellophane and polyethylene, it would appear that the problem can best be solved by changing the type of varnish used on your painted wooden item. There is little hope of eliminating this sticking of film to product simply by using another type of film. This sticking is the result of the migration or interaction of the varnish components and this action is accelerated by the higher summer temperatures and humidities.

Your laboratory can test different types of varnish and paint-formula combinations in test packages with cellophane and polyethylene films. These samples should be stored in temperature- and humidity-controlled cabinets to simulate summer conditions. A series of tests of this kind under reproducible conditions will establish just what type of paints and finishes will not react and stick to packaging films.

Two-carton promotion

Q: *What is the most efficient method for attaching two cartons together for a special deal promotion?*

A: The answer depends on how heavy the cartons are and how much promotional printing you want to display. If the cartons are light, they could be spot glued together and the promotion highlighted with a paper band or glue label. Heavy cartons, or cartons radically different in size, will probably have to be placed in a boot. This boot-type container will give a large area for selling copy.

Other techniques that have been used successfully are: bundling printed pressure-sensitive tapes and bands of shrinkable film. For bundling, a simple wrapper of any transparent film will do the trick, provided the cartons are close to the same size. Different weights of packages can be accommodated by choosing a film with the necessary strength to support the combined cartons. There are a number of simple and economical machines available to tape the cartons together and the tape can be printed to carry the promotional message. Shrinkable films are a newer form of packaging material and necessitate more expensive equipment, but they do have the advantage of being skin tight and are very strong.

Special cap design

Q: *We have a private-design bottle molded in the shape of a girl, for which we would like a custom-designed cap in the shape of a hat. The product is a heavy syrup that also contains a grease. What would be the most economical and functional material for this cap and how can we apply it automatically?*

A: Polypropylene would probably be the best material for this closure, since it resists grease and oils, and has the necessary stiffness to resist thread jumping during application. Polypropylene also can be used without a liner—an economy that you are going to appreciate by the time the other costs are added up. For, while an injection-molded plastic cap is probably the most economical way of making this special closure, make no mistake, it is going to be a costly matter.

Now, as to equipment. There are several capping machines that can probably be adapted to handle a fancy shape such as you propose. And you should bring these manufacturers into the picture immediately, since you might have to compromise a little on the cap design to insure trouble-free feeding and application of the cap. Fortunately, you are not going to require very high speeds, because a complex decanter bottle will have to be handled gingerly on your filling and closing line if you want to keep breakage within reason.

For maximum efficiency, we suggest that you keep the shape of the cap very stylized and uniform in cross section, with no curlicues or projections that will surely cause it to hang up in unscrambling and in the feeding mechanisms.

Bemis balers cut costs for Scott Paper Company

PACKAGING—Balers are only one-half the price of cartons.

WAREHOUSING—Scott stores 2,000 empty balers in the same space formerly occupied by 500 to 800 cartons.

SHIPPING—Balers' low tare weight (10 oz.) reduces freight costs, yet contents are fully protected.

AND SCOTT'S CUSTOMERS LIKE BEMIS BALERS, TOO

- **Balers are easy to open**
- **Easy to dispose of**

Why not see how Bemis can help you reduce your packaging costs? Simply call or write. A skilled representative will study your operations, make a recommendation tailor-made to suit your packaging needs.

BEMIS BAG CO.

where packaging ideas are born

General Offices:
408 Pine Street, Box 49
St. Louis 2, Missouri

plants & people

Aluminum Co. of America, Pittsburgh, will re-enter the printed aluminum foil business late this year. Alcoa foil, primarily for packaging, will be printed at Chicago by **R. R. Donnelley & Sons** in a new facility now under construction and designed to Alcoa's specifications. The company states that its objective is not only to produce high-quality foil, but to broaden the market for foil by developing new applications. All sales of Alcoa's new line will be handled through a new printed foils div. of the company's sales dept. **J. Robert Roney**, formerly mgr. of laminated foil sales, has been named mgr. of printed foil sales and will direct the marketing of printed foil products. Alcoa also plans to expand its foil research and development activities and is presently forming a new art dept. to supply graphic design work for the company and its customers.

Van Vlack

Wagner Van Vlack has been appointed to the newly created position of v.p. and gen. mgr. of the marketing div. of **Milprint, Inc.**, Milwaukee. Mr. Van Vlack will be responsible for overseeing the firm's marketing program including market research, merchandising, advertising, project planning and field operations. Prior to joining Milprint, Mr. Van Vlack was with **American Can Co.**, for 26 years.

Henry E. Wessel has been advanced to director of mktg., and **Dr. W. Paul Moeller** has been named mgr. of the International Dept. at **Avisun Corp.**, Philadelphia. Dr. Wessel, formerly mgr. of sales planning, will be responsible for all of Avisun's sales and marketing activities. Dr. Moeller, previously mgr. of special projects, will handle the company's overseas operations, including sales and technical agreements. **Frank Glacken has** been appointed mgr. of mktg. research. Mr. Glacken was previously a member of the market development dept. of Stauffer Chemical Co. Avisun is an equally-owned affiliate of **American Viscose Corp.** and **Sun Oil Co.**, and manufactures and markets polypropylene polymer, film and fibre.

Plas-Tech, Inc., a new custom molder of expandable polystyrene, has been formed. **Robert I. Janssen** is pres. of the new company which is headquartered at 1821 University Ave., St. Paul.

John W. Carlile has been appointed director of mktg. of **Ekco-Alcoa Containers Inc.**, Wheeling, Ill. In his new position Mr. Carlile will direct both line sales and staff marketing groups. He was previously associated with the **Plax Corp.** of Hartford, Conn. **Ramon Gaulke** has been appointed mgr. advtg. and sales prom. **Robert Tooker** has been named mgr. of market development, a post which will include planning and direction of programs for coordination and market introduction of new products and equipment. **Tom Carter** has been appointed to the new post of mgr. for mktg. services. **Robert Angsten** has become mdsg. mgr., with responsibility for market planning, coordination and distribution of the company's product lines.

Carlile *Gaulke*

The Plastics Div. of **Monsanto Chemical Co.**, Springfield, Mass., has made two marketing-dept. promotions. **Chester L. Jones**, who joined Monsanto in 1936 and was most recently director of sales for resin products, has been named asst. director of marketing. **Edmond S. Bauer**, who joined Monsanto in 1943 and who has been product administrator for resins and coatings, succeeds Mr. Jones as director of sales for resin products.

Robert W. Agler has retired as pres. of the container div. of **St. Regis Paper Co.** Mr. Agler joined St. Regis when **General Container Corp.**, of which he was pres., was merged into St. Regis. He had been pres. of General Container Corp. since 1944.

Dr. Clinton W. Tasker has joined **Packaging Corp. of America**, Evanston, Ill., as director of technical research and development. Dr. Tasker was formerly with the film div. of **American Viscose Corp.** His office will be in Grand Rapids, Mich.

R. P. Bemiss, developer of **Kliklok Corp.'s** automatic cartoning equipment and former Western head of the corporation, plans to remain in the packaging field. Since it was announced that **Atlas General Industries**, New York, had acquired Kliklok, Mr. Bemiss, who retired from Kliklok last December, has been considering several new ventures in the packaging field. He was one of the founders in 1943 of **Bemiss-Jason Co.**, San Francisco, developer of the Kliklok process. Bemiss-Jason later became the Kliklok Corp.

Diamond National Corp., New York, has made three executive promotions. **Richard J. Walters**, previously v.p., is named to the newly created post of exec. v.p. Before coming to Diamond National in 1959 he was a v.p. and director of **U. S. Printing & Lithograph Co. E. B. Howard** and **John R. Barnett** both become v.p.'s. Mr. Howard, who since 1934 has held various sales positions with Diamond's match and molded-packaging divs., has been a v.p. of the molded-packaging div. since 1958. Mr. Barnett also had been a v.p. of the molded-packaging div. and has held various sales positions since joining the former **General Package Corp.**—now merged with Diamond—in 1931.

A. N. Weeks, v.p. and director of production of Bemis Bro. Bag Co., St. Louis, has retired. He had been with Bemis since 1919. Mr. Weeks is succeeded by **E. M. Proctor**, who was asst. director of production. He has been with Bemis since 1926. **E. C. Whitmore**, director of product planning, and **A. F. G. Raikes**, director of Eastern operations, both have been elected v.p. of the company. **B. L. Willmore**, v.p. and director of procurement, has been elected to the Bemis board of directors.

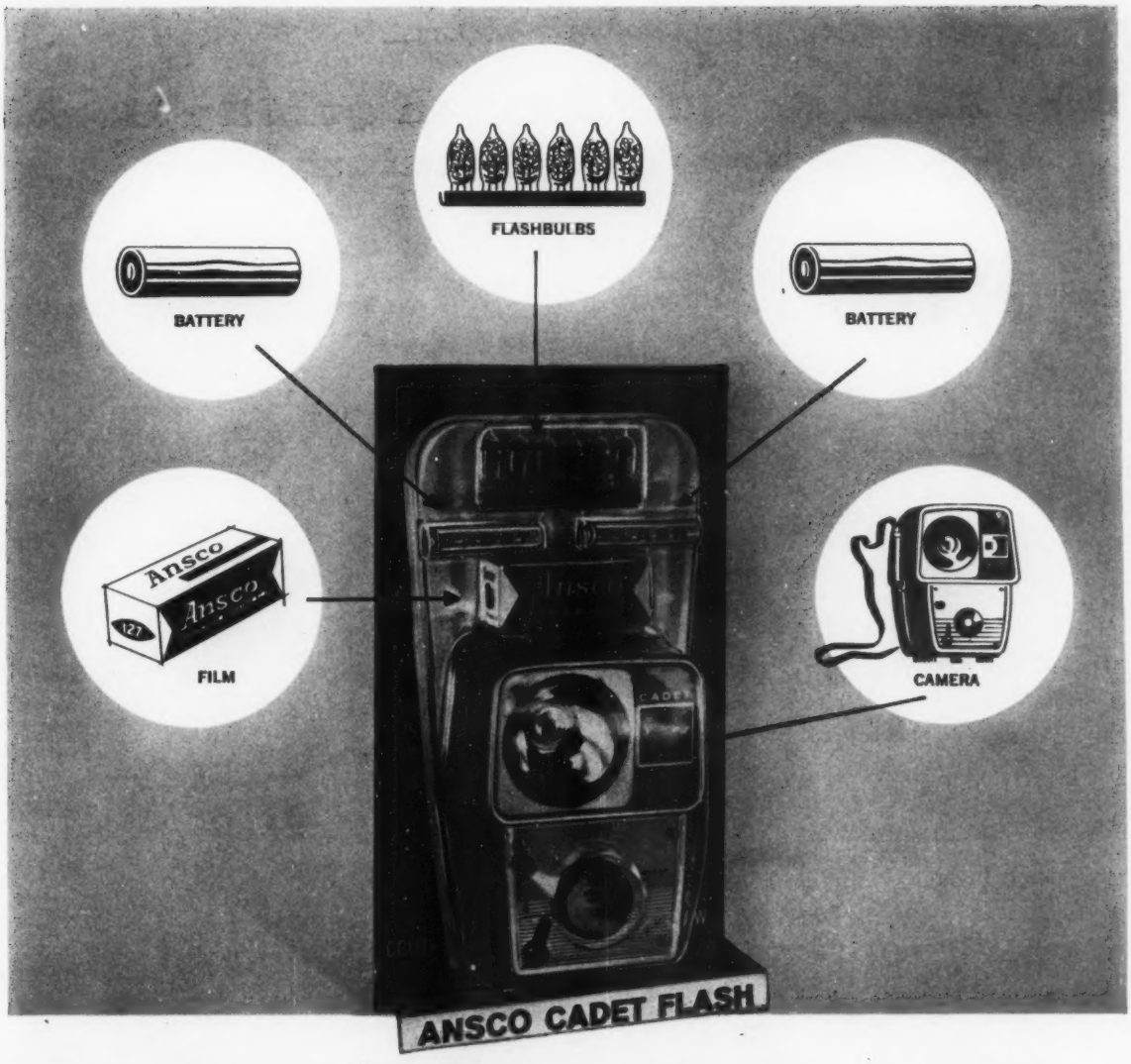
Weeks *Proctor*

Container Corp. of America will soon begin production of expanded polystyrene for protective inner packing of fragile products. The material will be processed by the **Mengel Div.** of Container Corp. in Louisville under the supervision of a newly established molded-foam dept. **Ted Duerr**, formerly a sales rep. for Container Corp.'s corrugated plant in Louisville, has been named sales mgr. of the new dept. Container Corp. has also purchased the plastics packaging plant of **Cal-Dak Co.**, Los Angeles. The plant will be used to manufacture rigid plastic containers and other custom-molded containers and packaging materials for

[*Continued on page 165*]

New address for MODERN PACKAGING

Headquarters of MODERN PACKAGING are now located in greatly expanded offices occupying two floors of the new building at 770 Lexington Ave., New York 21, corner of 60th St. Visitors are welcomed here, to use the facilities of Reader Service and the extensive reference library on packaging and plastics. Telephone and teletype numbers remain the same.



This Prize Winner Packs a Load... and a Sales Wallop!

A prize winner at the 24th Annual Variety Store Packaging Contest, this pressure-formed package by Plaxall is winning new sales for Ansco's flash camera outfit. Designed to pack a wide assortment of merchandise, the package offers complete visibility and maximum protection. Slideplax construction makes loading and assembly easy and economical — without sealing equipment or adhesives. And, this versatile display stands on the counter, or rack hangs for maximum sales impact.

For all types of formed plastic products . . . call or write

PLAXALL INC.

LONG ISLAND CITY 1, NEW YORK • TELEPHONE STILLWELL 4-4200

Over twenty years of plastic forming experience coupled with high speed precision equipment assures quality production

Plaxall, Inc. operates under patents owned and licensed by Design Center, Inc., Long Island City 1, N. Y.

Leading Packagers know—

Rowell excels* in Premium quality Boxes --without added Premium Cost!

***ex·cel** (ĕk sĕl′), v. 1. to surpass, be superior to; outdo.—v. i. 2. to surpass others, or transcend in some specific respect. —**Syn. 1** e.g. as **Rowell** *is noted for excellence in the manufacture of set-up boxes of fine construction, having close tolerances.* For giving careful attention to detail for special requirements to achieve *appropriateness* (an important concept in today's merchandising) to dramatize, to bring out the individuality of your product. To provide the look and feel of quality, assure maximum shelf appeal, to protect delicate and precisely fashioned articles as no lesser box can.

Cosmetic—padded top

SET-UP BOXES BY ROWELL are helping to boost sales for many of the nation's leading toiletries and cosmetics, pharmaceuticals and precision products. A quality set-up box by Rowell can enhance your product, too. Let us make a complete analysis of your requirements. Call or write today.

E. N. Rowell Co. INC. **BATAVIA** NEW YORK

Plant #1 Ellicott St. — Serving the Drug and Special Packaging Field
Plant #2 Jefferson Ave. — Serving the Cosmetic Industry exclusively

Here's the new film made of MARLEX* tailored resin 101

- **Poke it, pull it, try to tear it!** It's really tough. This film, made of MARLEX high density resin, is only 5 mils thick. Yet, compared to low density poly, it has 38% more tensile strength . . . 2½ times the burst strength . . . is a better moisture barrier.

- **Versatile performance!** Evaluate this new film for such packaging applications as produce and bulk material bags, drum liners, or vapor barrier wrappers. For such products as fertilizer, seed, chemicals, potatoes, fruit, salt, sugar, and the like . . . you will find TR-101 film offers better packaging at less cost.

- **Costs less to buy, ship, use!** For example, 50- and 80-pound bulk packaging bags made from MARLEX TR-101 blown tubing have thinner walls . . . yet are stronger and more durable than those made of low density polyethylene. Because less resin is used to make them, they are lighter . . . cost less to buy, ship, and use. Either translucent or pigmented, the superior body and surface of TR-101 assure easier handling and—as is apparent from this advertisement—provide an excellent printing surface.

- **Outstanding advantages!** For example, film of MARLEX TR-101 resin withstands hot storage at 140°F and cold storage below Zero F . . . never rots, discolors or mildews, and bacteria cannot attack it. Then too, thinner, stronger TR-101 film is faster and easier to seal with automatic or hand sealing equipment now available.

*MARLEX is a trademark for Phillips family of olefin polymers.

For more information, see your package supplier . . . or contact us directly.

PHILLIPS CHEMICAL COMPANY
Bartlesville, Oklahoma
A subsidiary of Phillips Petroleum Company

PHILLIPS 66 MARLEX PLASTICS

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*MARLEX is a trademark for Phillips family of olefin polymers.

For more information, see your package supplier . . . or contact us directly.

PHILLIPS CHEMICAL COMPANY
Bartlesville, Oklahoma
A subsidiary of Phillips Petroleum Company

Plants & People

[*Continued from page 160*]

foods, household items and other consumer products. The newly purchased plant has injection-molding equipment capable of producing 5 million pounds annually, says the company.

Three new regional sales mgrs. have been named by the **Dobeckmun Co.**, Cleveland, a div. of **The Dow Chemical Co.** They are: **John E. Powers**, New York region; **Paul M. Smith**, Central region, and **Robert J. Smith**, Northwest region. Mr. Powers was formerly Northwest regional sales mgr., Paul Smith was formerly asst. to the sales mgr. for Saran Wrap and Trycite products, and Robert Smith was Chicago district mgr.

Donald G. Keen, formerly director of public relations for the **American Management Assn.**, has been named v.p. for public relations for **Lippincott & Margulies, Inc.** He will have charge of all publication and information services of the industrial-design and market consulting firm.

Max

Dr. Keith W. Max has assumed the newly created position of director of research and development for the Containerboard and Kraft Paper Div. of **Continental Can Co.**, New York. Dr. Max and his staff will be located in the company's new bleached-board mill at Augusta, Ga. Prior to this appointment, Dr. Max was gen. mgr. of research and development for the firm's Robert Gair Paper Products Group.

Crown Zellerbach Corp., San Francisco, has reorganized its **Gaylord Container Div.** along regional lines. Five regions, each headed by a gen. mgr., have been established for production and marketing. **E. J. Spiegel, Jr.** is gen. mgr. of the Central region; **Joseph F. Ronan**, Eastern region; **Joseph P. Tarantino, Jr.**, Southeastern region; **John A. Bousquet**, Southwestern region, and **Wynne W. Williams**, Pacific region. The change becomes effective July 1, at which time the responsibility for the production and sale of Gaylord Container's products will be transferred from present division headquarters in St. Louis to Crown Zellerbach headquarters in San Francisco. These responsibilities will be assumed by **Willard G. Hunt**, asst. v.p. for manufacturing and engineering, and **Merwin M. Jamieson**, asst. v.p. for sales in the Gaylord div. Both have been transferred to the San Francisco offices.

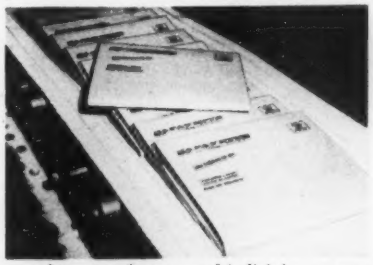
The Kordite Co., Div. National Distillers & Chemical Corp., Macedon, N. Y., has formed a National Packaging Sales Div. with divisional offices in New York, Chicago and San Francisco. The packaging sales organization is divided into Eastern, Central and Western divs. **Richard Merrill** has been named Eastern sales mgr., **John Sullivan** Central sales mgr. and **William Peterson**

Marking Ideas for People who Package . . . No. 6

from GOTTSCHO

PUBLICATION PACKAGING

Even top-drawer printers print with Gottscho "*Rolaprinters*" now. One outstanding example is famous Cuneo Eastern Press in Philadelphia, which has found the "*Series 780 Rolaprinter*"® the perfect answer for printing



complete copy (even postal indicia) on magazine and catalog mailing wrappers as part of the wrapping operation. Cuneo uses plain unprinted wrapper stock, can switch in a minute from one publication to another by substituting previously prepared quick-change "*Rolaplate*"® printing sleeves with appropriate copy. Interesting sidelight: Cuneo's discovery of the "*Rolaprinter*" and the concept of "imprinting while wrapping" enabled the company to return an idle automatic wrapping machine to productive service. (F-1)

TIPS ON CODING

Do you know the proven, time-tested code-dating structures for products with a shelf-life of less than a week . . . less than a month . . . less than six months . . . more than six months? Do you know the 11 important advantages of a properly conceived coding system? Do you know all the different methods of applying a code imprint to the shipper, the multipack, the shelf carton, the unit package? You will find the answers to these and other questions about package coding in "*Mechanics of Initiating and Maintaining a Successful Code-Dating System*" . . . fact-packed 10-page booklet sent free on request. (F-2)

JUST SUPPOSIN' . . .

Suppose you manufactured an extensive line of high-quality gift wrap papers. *Suppose* you wanted to package each design number in a wrap that would afford maximum product protection and visibility. *Suppose* you wanted each package to carry your name and trademark plus the name of the design and other

pertinent descriptive copy, but—because of slug change charges, inventory problems, wasted stock, etc.—realized it was impractical to use completely preprinted wrapping material. And, finally, *suppose*—being known for quality products—you insisted on a solution to the problem that would preserve the quality image you guard so zealously. With all those "supposes" it's only reasonable to suppose that you would do as The Hallmark Co. does—use cellophane partially preprinted in two colors with all copy common to the entire line . . . then *imprint* the style and other appropriate copy in a blank area of the "label" panel by means of a "*Wrap-A-Printa*"® dry process ribbon leaf imprinter attached to your automatic wrapping machine. (F-3)

20,000 CARTONS AN HOUR

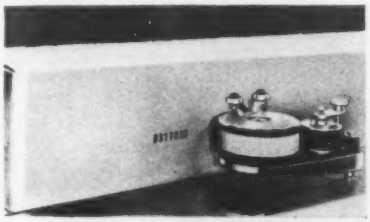
That's the kind of imprinting production you can get with the Gottscho "*Cartoncoda*"®. This compact, automatic, magazine-fed imprinter fills the bill nicely wherever coding, control numbering or prepricing of flat folding cartons in bulk is the preferred method. The "*Cartoncoda*" accommodates straight and reverse tuck cartons of almost any shape from ¾" W x 2" L to 8" W x 12" L; operates at speeds of 150, 250 or 350 units per minute. Imprints are made from quick-change type, dies or built-in wheels. (F-4)

USEFUL FILE FOLDER

Now available: a handy new "*Package Coding, Marking and Imprinting Machine*" file folder that you can use as a permanent holder for related data on the subject. It's ideal too for keeping this and future issues of "MARKING IDEAS" in one place for later reference. If you would like one of these new file folders, just check off F-5 below.

THE LONG AND SHORT OF IT

A friction-drive marker that makes only one imprint on shipping cases with sides over 24"



long is a new development of interest to users of extra-long boxes. It is excellent for use on lines where cases run close together because, if cases measure 14" or more in length, the marker requires only 1½" space between them to recycle completely. This new "*311 Rolacoder*" has a unique double starting arm that permits you to apply a single mark to the case anywhere within 15" of its leading edge. Since the marker also can be used for cases with sides as short as 10", it offers unusual versatility of application for packers using a variety of case sizes. (F-6)

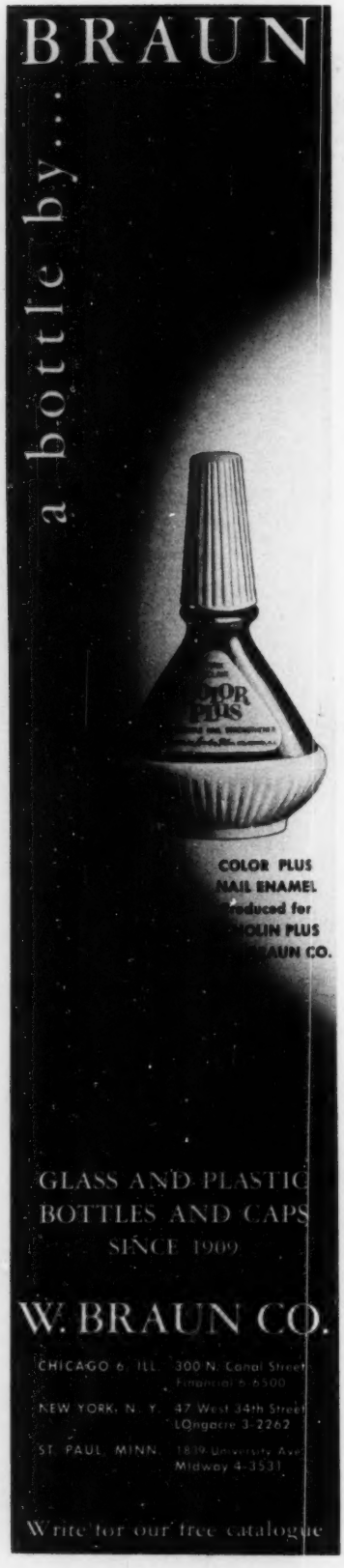
INK THAT BEATS THE HEAT

Many users of strip-packaging and other packet forming and filling machines have found it both practical and profitable to print or imprint their packages as part of the packaging operation. Now, development of a new heat-resistant ink for use with the Gottscho "*700 Rolaprinter*," permits printing over the entire visible surface of the packet or strip-pack—heat-sealed edges as well as pod—without fear of melting, smudging or offsetting on sealing rolls. It's our new *#4247* ink and it comes in the usual variety of colors. (F-7)

Want more info? Check off—clip—attach to your letterhead—and mail to

GOTTSCHO, Dept. A, Hillside 5, N. J.

☐ F-1 ☐ F-2 ☐ F-3 ☐ F-4
☐ F-5 ☐ F-6 ☐ F-7



Plants & People [Cont'd]

Western sales mgr. They will report directly to **Virgel Smith**, Kordite's national sales mgr.

Crompton & Knowles Packaging Corp., Holyoke, Mass., has promoted **William F. Dent** to the newly created position of regional sales mgr. He will be located at the Bellwood, Ill., plant and will be responsible for the national sales of the Redington Div. and sales of the Wrap-King Div. in the Central, South Central and Western districts.

Avery Adhesive Products, Inc., Monrovia, Calif., has formed a div. to be known as **Applicon Machines.** The company, whose headquarters will be at 21877 Euclid Ave., Cleveland, will provide equipment and machines to dispense and imprint pressure-sensitive labels, rolls and sheets. **Seth Wheeler**, formerly gen. sales mgr. of **Fasson Products**, will manage the division.

Dr. Norman G. Gaylord, formerly v.p. for research and development for the polymer div. of **Western Petrochemical Corp.**, has formed his own polymer consultant firm, **Gaylord Associates**, New Providence, N. J. The firm will carry out contract laboratory research in the organic and polymer fields.

Sun Chemical Corp.'s Packaging and Construction Materials Group has announced the acquisition by the **Dyna-Foam Div.**, Ellenville, N. Y., of 30,000 sq. ft. of additional space in Paterson, N. J. The division will utilize the new space in converting operations for extruded, polystyrene foam which it is marketing under the trademark "Xanfoam." These converting operations include forming, laminating, embossing and sheeting. **Ernest H. Heath, Jr.**, has been appointed sales mgr. of the Paterson branch. He will be responsible for appointing converter-distributors in the bag, box and folding-carton fields. **Douglas I. Hanson** becomes product-development mgr. of the division.

Middlebrook

Leo Middlebrook, former asst. to the pres., **Kleen-Stik Products, Inc.**, Chicago, has been named mgr. of the recently formed machinery div. Kleen-Stik manufactures pressure-sensitive adhesive printing and labeling stocks and tapes for the graphic-arts field. The machinery div. will handle design, production, leasing and sales of Kleen-Stik's present equipment as well as future developments.

The Borden Co. and **U. S. Rubber Co.**, both of New York, have organized a jointly owned company — **Monochem, Inc.**—which will construct a chemical facility to convert hydrocarbons into more than a dozen chemical products. The new facility will be constructed on an 850-acre site at Geismer, La. and is expected to be completed late in 1962. **Earl S. Ebers** of U. S. Rubber has been elected pres. of the new company and **Augustine R. Marusi** of Borden has been elected exec. v.p. The initial plant is expected to have an annual capacity of 80 million pounds of acetylene and 150 million pounds of vinyl chloride monomer, used in the manufacture of polyvinyl chloride resins and plastics.

John L. Gushman, formerly v.p. of **Owens-Illinois Glass Co.** and pres. of **Owens-Illinois International**, has been elected pres., chief operating officer and

Gushman *Fisher* *Collins*

a director of **Anchor Hocking Glass Corp.**, Lancaster, O. **William V. Fisher**, pres. for the past 17 years, was elected chairman of the board and chief exec. officer. **I. J. Collins**, founder of the Hocking Glass Co. in 1904 and board chairman of Anchor Hocking since 1944, was elected chairman of the executive and finance committees.

Edgar B. Lehman, formerly in charge of overseas operations, has been promoted to gen. sales mgr. of **S & S Corrugated Paper Machinery Co.**, Brooklyn. He succeeds **Harry Loose**, who has left the company. Mr. Lehman has been with S & S since 1949 and has held several other technical and sales positions with the company.

Rapid-American Corp., New York, has purchased **Cellu-Craft Products, Corp.**, New Hyde Park, N. Y. Cellu-Craft will continue to operate under the presidency of **Samuel Levy** as a sub. of Rapid-American. Cellu-craft is a converter of flexible packaging materials.

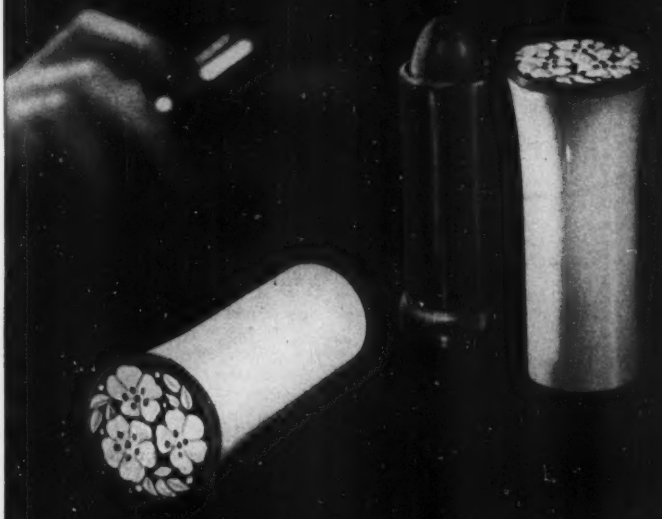
The Custom Made Paper Bag Co., Long Island City, N. Y., has announced the appointment of **T. J. Dermot Dumphy** as pres. He succeeds the late **H. T. A. Richmond**, who was killed in an airplane collision over New York City last December. Mr. Dumphy previously was mgr. of marketing services for Westinghouse Electric Co.

Ernest Arthur Bortis, formerly director of mktg. research and advtg. for **Federal Paper Board Co.**, has established an independent management consulting service under the title of A.R.M. (Arthur Research for Management) at 423 Broadway, Westwood, N. J. A.R.M. will specialize in a combination of marketing areas, including sales potentials, salesmen evaluation and competitive and industry trends.

A newly formed corporation, to be known as **Fairmount Glass Corp.**, has been formed in Indianapolis and will operate as a wholly owned sub. of **Inland Container Corp.** The new corporation has acquired the operating properties and other assets of **Fairmount**

there are always good reasons for designing it in

polypropylene



This attractive Avon Lipstick is a beautiful example of fine, multi-colored, double-shot molding. Polypropylene is unmatched for cost-saving, precision molding like this. Custom-molded by Electric Manufacturing Co., San Francisco, Calif.

in the Avon Lipstick case

it's chemical resistance

AviSun's polypropylene #1014 proved to be the most practical material for Avon Cosmetic's new lipstick case. Economical enough for a "throw-away" item . . . yet immune to the oils and chemicals used in lipstick . . . highly resistant to scratching. Molds smoothly, with high sheen, fine detail and pleasant "feel".

Polypropylene makes better products at lower cost. No other material has this combination of properties:

1. **Heat Resistance**
2. **Toughness**
3. **Chemical Resistance**
4. **Economy**

AviSun polypropylene is being used in new applications every day—from Pulspirators to TV backs. New production facilities, now under construction, will soon be ready to meet the growing demand for this versatile new material. Send for Booklet AP-601, giving complete information on AviSun polypropylene.

AVISUN CORPORATION
Dept. 475
1345 Chestnut St.
Philadelphia 7, Pa.

AVISUN*

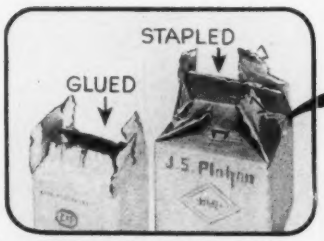
*a trademark of AviSun Corp.

DO YOU KNOW

that "out of this world" customer convenience in opening your corrugated shipping containers, without injury to persons, contents or containers, is now an engineered achievement. This is only accomplished when containers are automatically tape-sealed with new improved "peelable" gum tape, WITH visibly extending LIFT TABS at EACH END of the tape, as applied by

GENERAL'S

CASE—TAPE—SEALERS



DAMN IT! THIS IS TERRIBLE!

DESTROYS GOOD WILL

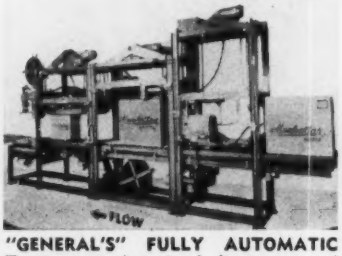
Product manufacturers who close shipping containers with glue or staples are handicapped by old fashioned crude methods and overlook customer dissatisfaction in the struggle to "unpackage" their products. This usually causes: product damage; cut hands; ripped clothes; broken fingernails; a torn box, spoiled for re-use; serious customer aggravation or even a suit for damages. Nobody gains.

OH BOY! THIS IS TERRIFIC!

BUILDS GOOD WILL

The practical and economical way to avoid all these difficulties, plus gaining a more dust-proof and pilfer-proof seal, is to seal with the new "PEELABLE" TAPES having visibly extended, convenient LIFT TABS (Pat. Pend.) at BOTH ENDS. Everybody gains.

FOR MIXED SIZES



"GENERAL'S" FULLY AUTOMATIC Tape-case-sealers simply have no equal for production runs of mixed or fixed sizes. A marvel in tape sealing automation.

FOR MIXED SIZES

Also **"GENERAL'S" NEW, LOW COST SEMI-AUTOMATIC** Tape Sealer for fixed and/or mixed sizes is a step toward lower costs and better case sealing—Price $995.00.

It costs to put off . . . Phone or write now . . .

GENERAL

GENERAL CORRUGATED MACHINERY CO., INC.

Palisades Park 3, N. J. Windsor 4-0644 TWX-LEON 1491

Plants & People [*Cont'd*]

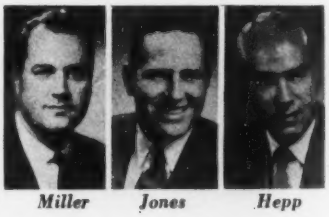
Glass Works, Inc. of Indianapolis. No organizational changes are contemplated under the new ownership. **John R. Harkness** will continue as pres. and chief exec. officer of Fairmount.

George Stecker has been named product mgr. for the packaging div., **Downingtown Paper Co.**, Downingtown, Pa. His responsibilities will include directing and developing the over-all marketing of "Stretch-Packaging," which is now available through Downingtown Paper. Mr. Stecker's work will also include technical and sales service to customers.

Bostitch, Inc., East Greenwich, R. I., manufacturer of stapling and stitching equipment, has purchased **Calwire Products, Inc.**, Visalia, Calif., and **Calnail, Inc.**, its selling organization. Calwire tools are used for assembling wood crates and skids, attaching corrugated material to wood bases and supports, lining freight cars and other woodworking assembly jobs.

Harry W. Fillman has been appointed director of manufacturing for **Aerosol Techniques Inc.**, Bridgeport, Conn. He previously was with M & M Candies, Hackettstown, N. J. C. **Donald Schoonmaker**, formerly plant engineer with King Container Co., New York, has been named plant engineer.

A new organizational structure—reportedly designed to enable its glass container div. to handle present and future growth opportunities more effectively—has been announced by **Owens-Illinois Glass Co.**, Toledo. Marketing of



Miller *Jones* *Hepp*

glass containers in the area east of the Rockies is being regionalized by the creation of three geographical regions—Eastern, Southern and Midwestern. Each region will be under the dual management of a regional sales mgr. and a regional factories mgr. Regional sales mgrs. are: Eastern region (headquarters in New York), **Robert F. Miller**; Southern region (Atlanta), **Frank Jones, Jr.**, and Midwestern region (Chicago), **Kevin K. Hepp.**

Paul W. Herrlinger has resigned as exec. v.p. of **Gummed Products Co., div. St. Regis Paper Co.**, New York. Mr. Herrlinger, who has been associated with the company for 35 years, will continue to serve as a consultant.

Crown Cork & Seal Co., Philadelphia, has purchased RCA's electronic beverage-inspection-equipment business. The acquisition, says Crown, is designed to provide a more complete line of high-

WIRZ knows what plastics can do...

to create a distinctive container in the modern manner for cosmetics and a host of household and personal products. A case in point: the popular roll-on bottle in linear polyethylene ...handsomely designed to meet the closest orifice and ball-seat tolerances.

Quality packaging for added sales appeal has been the specialty at Wirz for 125 years. Today, Wirz knows what plastics can do. Let a representative work with you to create an exclusive container design... or adapt a standard Wirz container to your special needs.

A. H. WIRZ INC.

4TH & COLE STREETS, CHESTER, PA.

125th Anniversary

Also Plants in Kentucky and New Jersey / Sales Offices: New York • Chicago • Los Angeles

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LeCLAVE PERFUME
ACCENT
Sheer
Stockings

How to turn a woman's head ...your way!

At point of sale, your package is your product. In fashion merchandise particularly, shoppers equate glamour without to quality within. Creative packaging ideas in Dow Plastics meet every standard for showmanship on the shelf plus the exact degree of protection your particular product requires. The range of Dow materials is wide: Styron® polystyrene, with unlimited color and design possibilities for distinctive rigid packages . . . Saran Wrap* for crystal clear sparkle and high protective film qualities . . . Trycite® polystyrene film for "picture window" glamour on low budgets . . . Polyfilm® for transparent protective display . . . Pelaspan® or Ethafoam* for cushioning fragile items . . . Dow Latex for coatings that give boxboard a new look of quality . . . and many others. Dow packaging materials, experience and ideas are on call to help you turn a woman's head your way in any market! For more information write us in Midland.

*TRADEMARK

DOW PLASTICS

Crystal clear Saran Wrap maintains freshness and flavor, puts meat and cheese on tempting display.

Versatile Styron packages a host of food products in colorful rigid containers handsome enough to go straight to the table.

THE DOW CHEMICAL COMPANY
Midland, Michigan

DOW

speed equipment to the bottling industry. **RCA Service Co.** will continue to service equipment now in operation and will make available service to future equipment manufactured and sold by Crown Cork & Seal.

Ball Brothers Co., Muncie, Ind., has named **Charles G. Callard** mgr. of beverage container sales for Ball's commercial container div. He previously was mgr. of mktg. research. **Harold E. Aletto** succeeds Mr. Callard in that post. **Ronald J. Woods** has been named product mgr. for plastic containers. His previous assignments were with the **Ball Research Corp.** in Boulder, Colo., where he was active in plastic container research and development.

Callard *Woods*

Roth-Pak, Inc., New York, will add the **Dosamatic Dropper Corp.** products to its molded closure and fitment service. (See "Metered-Dose Dispensing Closure," MODERN PACKAGING, July, 1960, p. 190.) Deliveries of the Dosamatic dropper are scheduled for customer availability by midsummer. All activities relating to Dosamatic Dropper Corp. are being carried out through the Roth-Pak organization.

A new firm, **Plasticon Corp.**, that will specialize in the custom blow-molding of large items has been formed. The company has production facilities at Rock Island, Ill. for the blow-molding of such proprietary items as 15-gal. carboys, 15-, 40- and 55-gal. tanks and liners. The home office of Plasticon is at 2212 Foshay Tower, Minneapolis 2.

Zenas Crocker has been elected exec. v.p. of **Nixon-Baldwin Chemicals, Inc.**, Nixon, N. J. Mr. Crocker was with **Nixon Nitration Works** as v.p. prior to its acquisition by Nixon-Baldwin early last year. In his previous posts he was active in the development of numerous thermoplastic sheetings. Among these were high-impact vinyl sheeting. In March Nixon-Baldwin started producing "Vynex," a high-gloss, transparent rigid vinyl sheeting designed primarily for blister-packaging applications.

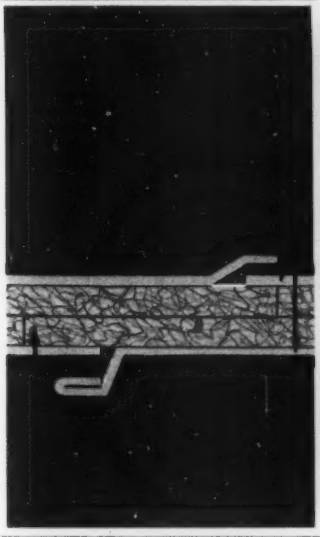
Crocker

The **IMCO Container Co.**, a div. of **Rexall Drug & Chemical Co.**, Kansas City, has opened a new facility for the production of polyethylene containers in Jeffersonville, Ind. **B. L. Bolin** will manage the new plant.

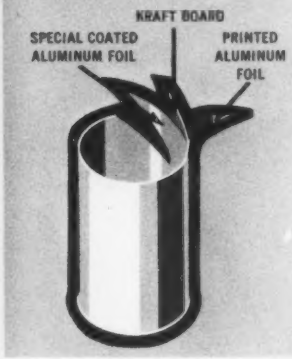
Stecher-Traung Lithograph Corp.—the result of a 1933 merger of **Stecher Lithograph Co.**, Rochester, N. Y. and

[*Continued on page 176*]

NEW
CONCEPT IN
FOIL
CAN
CUTS COSTS



ANY PRODUCT not needing autoclaving or exerting excessive internal pressures can be packed. The can is proved for frozen orange juice concentrate; is being tested and/or considered for motor oil, paints, popcorn, nuts, coffee, chemicals and other products.



NEW CONCEPT IN CONTAINERS DEVELOPED BY ANACONDA ALUMINUM LETS YOU PUT LIQUIDS IN SPIRAL-WOUND FOIL-TO-FIBER CANS. . . .

PAINT | OIL | COFFEE | JUICE

YOU SAVE ORIGINAL COST. This new can costs 20% less than conventional tin-plated steel in 6-oz. juice can sizes; 14% less in the same size sheet aluminum can with tin plate ends. You get comparable savings over other sizes and styles.

YOU SAVE ON FREIGHT. In the case of the 6-ounce frozen juice concentrate can, weight savings were two to three pounds per 48-can case, depending whether aluminum or tin plate ends were used. Freight savings up to 10% are possible.

ALREADY CONSUMER-APPROVED. Thorough market tests show that housewives like this can. It opens with conventional can openers and because of the added insulation value of foil cans, frozen foods arrive home in better condition. These same tests showed sharp sales increases because the foil label added sales and prestige advantages . . . cans stand out in shelf and case display.

THIS NEW CAN goes through filling operations, sealing, storage and shipping just like any other can . . . except the cost to you is far lower than ever before.

TO GET MORE INFORMATION and literature, write to Anaconda Aluminum Company, 1430 South 13th St., Louisville 10, Kentucky.

*Patent applied for

NOW ON MARKET—First container using this new concept. Southern Sun orange juice concentrate is now being marketed by H. P. Hood & Sons, Inc., in FOIL-KAN† developed by RC Can Company, St.Louis 32, Mo.

†T. M. and patents applied for

ANACONDA ALUMINUM

Ziploc's patented air-cell construction makes it comparable in strength to many reinforced box tapes.

"Now! A new easy-opening Box Tape

At last! A tear strip tape that lets you take *full* advantage of the economies of end-loading cartons! It's new Ziploc—the tear strip tape that's low in cost . . . yet opens neatly and quickly. New Ziploc tape can withstand the abuse of shipping, stacking, and handling! Made by The Gummed Products Company Division, Ziploc complies fully with Section 11, Rule 41, Manufacturers' Construction Joints of Corrugated Fibre Boxes.

Ziploc Tape gives you *all* these advantages because of its exclusive rayon zip channel and patented air-cell construction.* What's more, Ziploc has positive, permanent adhesion

Use any style end-loading carton! Ziploc is the answer for either corner or in-panel closure.

Ziploc's exclusive rayon zip channel assures arrow-straight opening with one easy pull.

for end-loading cartons...ZIPLOC!"

Ziploc's easy opening eliminates damaged contents and extra handling. Saves time—makes price marking a breeze!

to prevent hidden pilferage . . . assures top impact strength!

Check with your carton supplier, or write us for full facts and free samples of new Ziploc Box Tape for end-loading cartons. You'll quickly see the shipper and customer benefits that Ziploc Tape provides.

"Trojan Quality Products"

*Manufactured under Patent #2651588

The Gummed Products Company

Division **St. Regis Paper Company** · Troy, Ohio

MILLIONS IN USE
ECONOMICALLY PRICED

• DETERGENTS
• POLISHES

NEW
PRACTICAL
LINERLESS
PLASTIC CLOSURES
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The sparkling individuality of MASON embossed seals, labels, tags, name plates...

gives quality appeal, added persuasiveness to your product.

THE LOOK OF LUXURY that marks a MASON embossed seal, label or tag means extra attention-getting value for your package...and that means extra sales! Available in gold and silver with bright or satin finish. Also, single or multicolor. Regular, permanent-type pressure sensitive or heat-seal adhesives. Remember, there's a MASON embossed seal, label or tag for every packaging need. Write for full information. Or, check the coupon below for samples.

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30675 Franklin Street, Batavia, N. Y.
Gentlemen:
Please send me samples of seals, labels, tags checked here:
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☐ Embossed Seals and Labels – with permanent-type pressure sensitive adhesive
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☐ Anniversary Seals
☐ Heavy Metal Seals and Labels
☐ Labels with Della Robbia Finish
☐ Embossed Tags—single faced and double faced
☐ Name Plates with Girder Adhesive—Heat Activated Gutta Percha—or Permanent Pressure Sensitive.

Plants & People

[*Continued from page 171*]

Traung Label & Lithograph Co., San Francisco—is celebrating its 75th anniversary year. The company dates from 1886, when F. A. Stecher re-incorporated his 15-year-old firm as the Stecher Lithograph Co. Traung was founded in 1911 by Charles and Louis Traung.

Integral Packaging Co. has moved to a new research and development center in Chicago Heights, Ill. The building will be headquarters for **Machinery Development Corp., C. P. S. Mfg. Co.** and **Foil Cartons, Inc.**—subdivisions of Integral. The parent company is a manufacturer of heat-sealable packages.

A. C. Nielsen Co., Chicago, has acquired all rights to point-of-purchase opinion-gathering mechanisms supplied by **Automated Preference Testing Corp.**, New York. (See "A Robot Redesigns Vicks," MODERN PACKAGING, March, 1961, p. 90.) Nielsen will also acquire all outstanding securities of Automated Preference Testing.

A new West Coast branch has been formed by the **Arthur Colton Co.**, Detroit. The branch, which is located at 9426 Santa Monica Blvd., Beverly Hills, Calif., will be managed by **W. A. Doepel.** Colton, a div. of the **Snyder Corp.**, manufactures tablet presses, filling machines and production machinery for the drug, pharmaceutical, cosmetic and food industries.

Owens-Illinois Glass Co., Toledo, is constructing a 62,000-sq.-ft. warehouse to adjoin its closure and plastics div. plant in Chicago. The building is scheduled for completion about Sept. 1.

The Johnston Foil Div. of Standard Packaging Corp., New York, has opened a new sales office in Indianapolis. **Thomas H. Geraghty** will manage the office, which is located at 1401 N. Sherman Dr.

Hewitt

Brockway Glass Co., Brockway, Pa., has appointed **Donald B. Hewitt** to the post of sales prom. and advtg. mgr. Mr. Hewitt will be in charge of Brockway's broadening programs in customer service, merchandising and marketing in the glass and plastic container fields. Prior to this appointment he was head of his own agency in Homer City, Pa.

PaCon Corp., Rockford, Ill., packaging consultants and licensor of patented containers, has changed its name to Rockford Package & Container Corp. **C. J. Smith**, who last year resigned as v.p. of the food and container div. of **W. F. & John Barnes Co.** to form the company, is pres.

Federal Paper Co., Bogota, N. J., has initiated a construction and equipment program, the basis of which is the construction of a new mill at Versailles,

ENGINEERING

for the Converting and Packaging Industry

- ANALYSIS OF PRESENT OPERATIONS
- REPORTS AND RECOMMENDATIONS
- PROCESS STUDIES
- PLANS AND SPECIFICATIONS

plant rearrangements
plant extensions
new plants

CHAS. T. MAIN, INC.

80 FEDERAL ST., BOSTON, MASSACHUSETTS
129 WEST TRADE ST., CHARLOTTE, NORTH CAROLINA

SOLVE YOUR PACKING PROBLEMS at Low Cost with PARTITIONS

• Sleeves • Necks •
FOR PROTECTIVE PACKAGING

WRITE, PHONE, WIRE for QUOTATIONS on YOUR REQUIREMENTS

Peter Partition Corp. operates one of America's *largest* plants devoted *exclusively* to the production of cardboard partitions.

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REDUCE HANDLING *Costs*

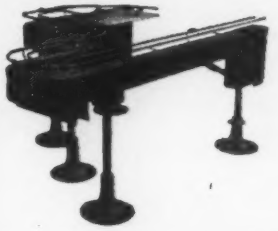
Keep Production Flowing Smoothly with *Styl-O-Matic*® Bottle Conveyors

THE REX CHAIN #815 CONVEYORS

carries bottles, jars, cans and other containers in a single file through various stages of a production line. No jerking, no rough or high spots to cause spilling or breakage. Steel or stainless steel . . . any length required . . . 3 chain widths . . . it is ideally suited for every producer of canned and bottled products.

2 types of nylon top chains, corner brackets with discs or transfer discs are available for the Rex Units . . . 3 type Power Units available for Rex or Lateral Curve Units . . . leg supports available with standard pedestal base or sanitary tripod base.

Serving Industry 20th Year



THE LATERAL CURVE CONVEYOR

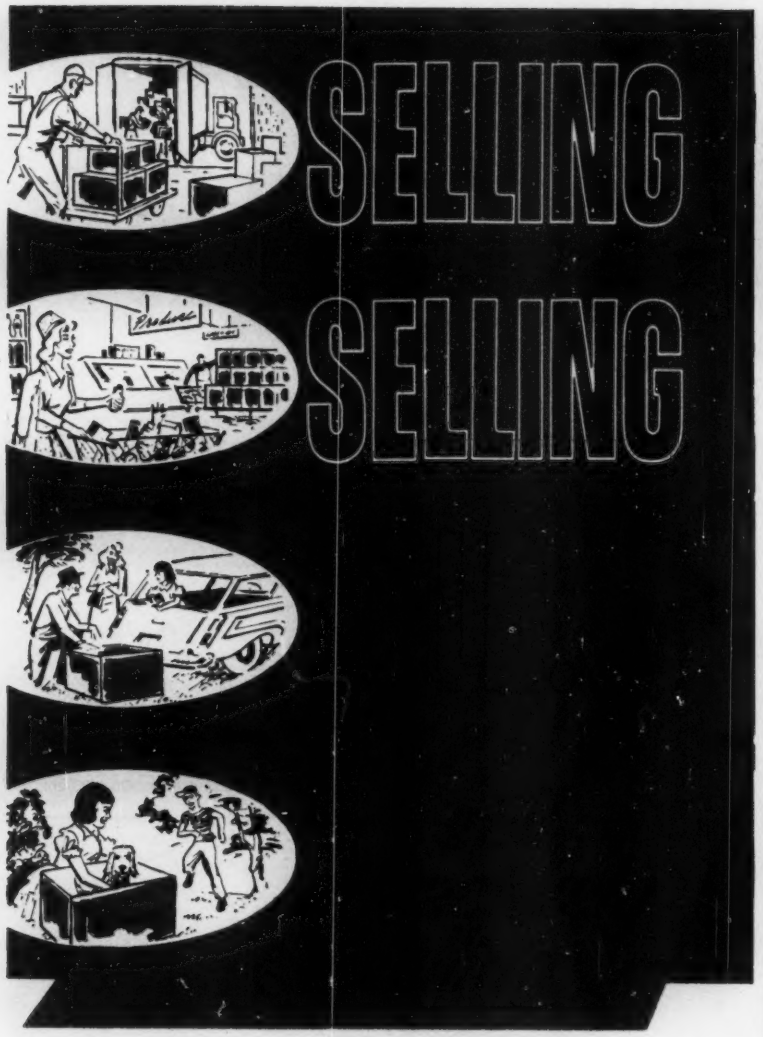
permits a production line to move straight, around curves and up or down normal inclines or declines. Only one Power Unit is required and transfer discs are not required at curves . . . steel or stainless steel . . . any length required . . . supplied with or without pack-off tables.

ISLAND EQUIPMENT CORP. Dept. MP-6

P. O. Box 380276 — Miami 38, Florida

Please send information on the following:
- ☐ Rex Chain #815 Conveyor
- ☐ Lateral Curve Conveyor
- ☐ Other Conveyors

Company _____
By _____
Address _____
City _____ State _____



New printing techniques and developments transform today's corrugated containers into clean, colorful sales stimulators. Coordinated with your advertising and merchandising programs, corrugated containers serve as seasonal and take home packages, special merchandisers and display cartons, brand name builders and self-sellers.

Let Matthews experienced artists and die makers help build new merchandising strength into your packaging program. Matthews combines color, type, and design for maximum visual impact. And, Matthews die making skills assure you of attractive design reproduction.

You can profit by Matthews Service . . . and make the most effective use of your corrugated containers. Call your Matthews man today!

JAS. H. MATTHEWS & CO.

BOX DIE DIVISION

BOSTON CHICAGO CLIFTON JACKSONVILLE PHILADELPHIA
PITTSBURGH ST. LOUIS (RUB-R.ENG. CO.)

Plants & People [*Cont'd*]

Conn. The new mill, which will have a capacity of 80 million tons annually, is expected to be in production in the latter part of 1962.

Heguy

Peter L. Heguy has been appointed sales mgr. of **Packaging Corp. of America**, Los Angeles. The company is a contract manufacturer and packager, serving the drug, cosmetic and household-chemicals industries. Prior to joining PCA, Mr. Heguy served for many years with **New Jersey Machine Corp.**, Hoboken. His most recent position was West Coast mgr.

Walter R. Freeman, mgr. of the Food Packaging Div. of **The Rap-In-Wax Co.**, Minneapolis, has left that post to open a sales office for the company in Denver.

Franklin Folding Box Co., Chicago, has set up a new company to manufacture a new blister-packaging machine. The new company, **Wirth-Rhodes Corp.**, has general offices at 1914 W. 14 St., Chicago. Its officers are: **Howard Buck**, pres.; **James H. Herrell**, v.p.; **Edward J. Hirsch**, secy.-treas.; **Arthur C. Wirth**, director of engineering, and **Robert H. Rhodes**, engineer in charge of development.

Brockway Glass Co., Brockway, Pa., has relocated its New York district office. The new address is at 320 Park Ave. Combined at these new quarters will be the sales and service personnel of Brockway and its subs: **Demuth Glass Works, Inc.**, **Celluplastics Inc.**, **Tygert Valley Glass Co.**, Brockway's Plastics Div. and Export Div.

Howard R. Blake, who has been mgr. of graphic design for **Ekco-Alcoa Containers Inc.**, has opened his own design office. The address is 322 W. Washington St., Chicago 6.

The Canco div. of **American Can Co.**, New York, has opened two new plants in Oregon. The new plants, which are under the direction of Canco's Western Area mgr. of manufacture, are located in Astoria and Eugene. They each have a rated output of 100 million cans per year in full operation. Canco already has a 200-million-can-per-year installation at Salem. **A. S. Bergstrom** is mgr. of the Astoria plant and **J. H. Byard** is mgr. of the Eugene plant.

J. E. Zeller is resident mgr. of **Bemis Bro. Bag Co.**'s new plant in Muskegon, Mich. The new plant, which replaces facilities in Minneapolis, has 50,000 sq. ft. and will be used for the manufacture of Tekmold molded cellulose products for interior packaging.

Roanoke Box, Inc., Roanoke, Va., manufacturer of folding boxes and die-cut specialties, is planning to add 24,000 sq. ft. to its facilities. The com-

[*Continued on page 182*]

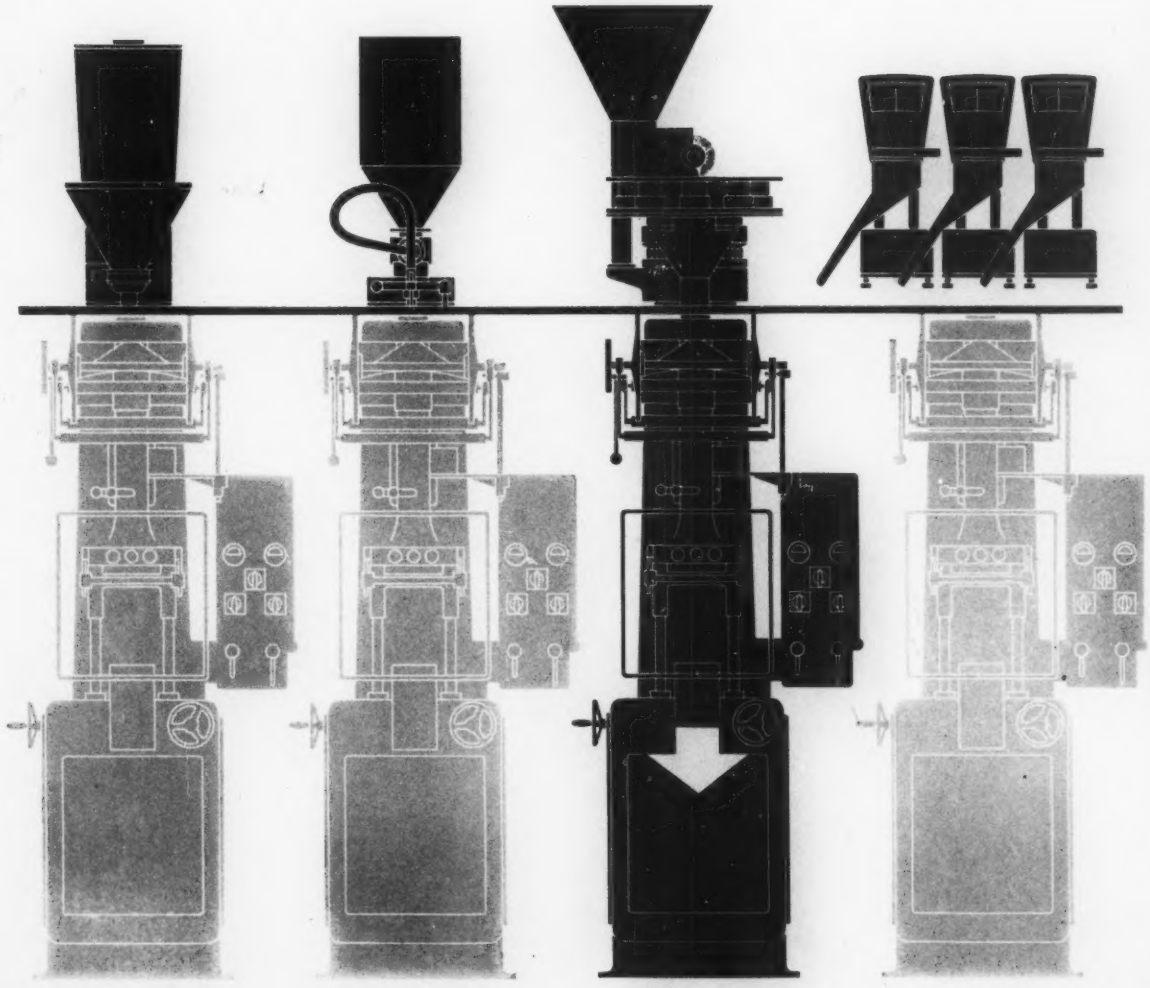
You buy more

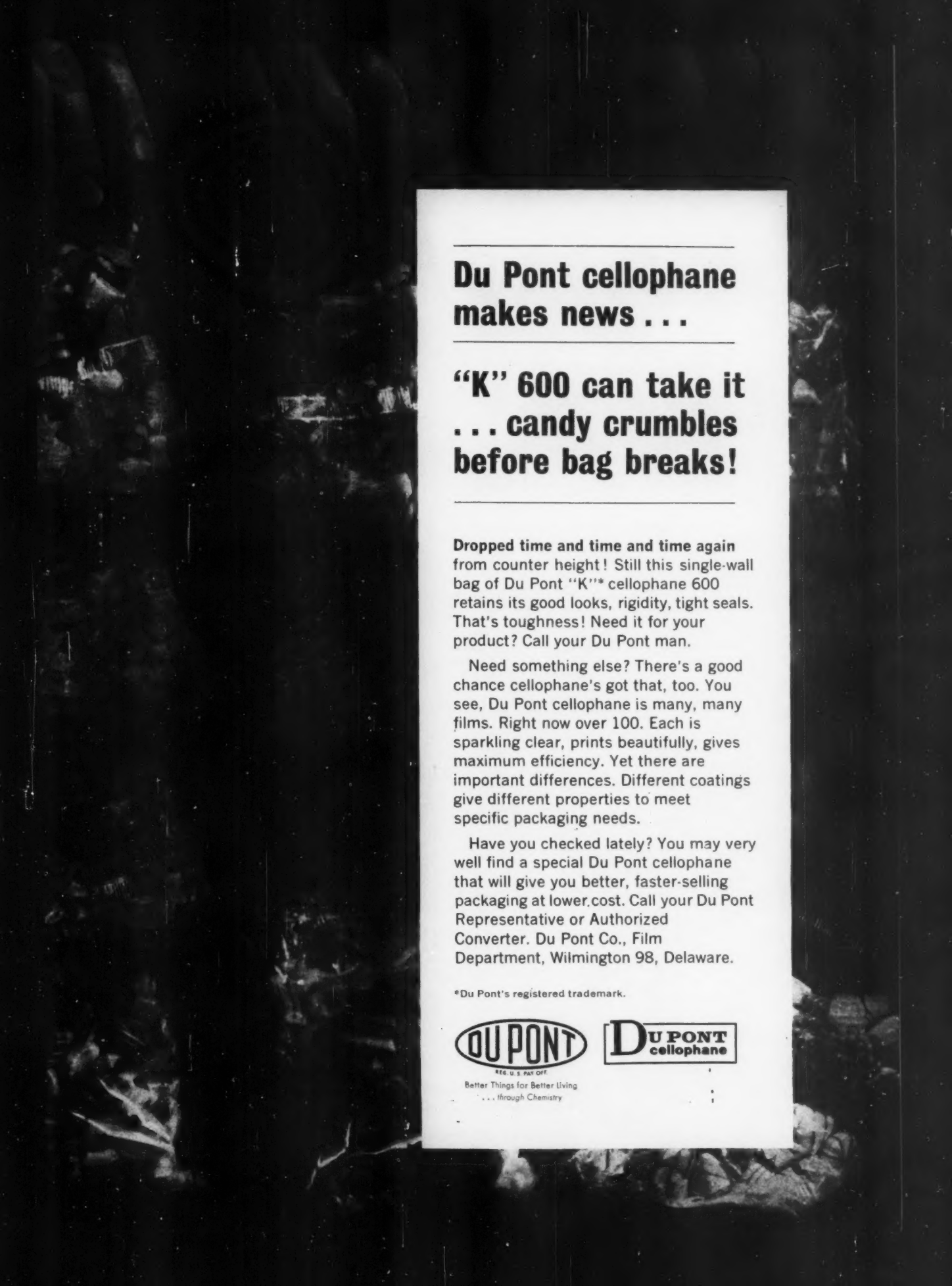
when you buy a Hamac-Transwrap®: Each machine offers you a high degree of versatility, both as to bag sizes and to the different types of feed. Rapidly exchangeable accessories will cope with any product you may require bagging at some future date.

More than 1000 installations operate all over the world handling a wide range of products, using volumetric, auger and pump feeds, as well as semi- or fully-automatic counters and weighers. Each of them is producing up to sixty filled and sealed bags per minute, hour after hour, throughout the whole working week. — Discuss your packaging problems with Hamac-Hansella Machinery Corporation, Grand & Ruby Avenues, Palisades Park, N.J.

Hamac-Hansella

Hamac-Hansella Maschinen GmbH, Düsseldorf, Western Germany





Du Pont cellophane makes news . . .

"K" 600 can take it . . . candy crumbles before bag breaks!

Dropped time and time and time again from counter height! Still this single-wall bag of Du Pont "K"* cellophane 600 retains its good looks, rigidity, tight seals. That's toughness! Need it for your product? Call your Du Pont man.

Need something else? There's a good chance cellophane's got that, too. You see, Du Pont cellophane is many, many films. Right now over 100. Each is sparkling clear, prints beautifully, gives maximum efficiency. Yet there are important differences. Different coatings give different properties to meet specific packaging needs.

Have you checked lately? You may very well find a special Du Pont cellophane that will give you better, faster-selling packaging at lower cost. Call your Du Pont Representative or Authorized Converter. Du Pont Co., Film Department, Wilmington 98, Delaware.

*Du Pont's registered trademark.

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. . . through Chemistry

DU PONT cellophane

BOND STIXIES

INSTANT PRESSURE SENSITIVE LABELS ON THE FINEST WHITEST BOND STOCK

Thousands of new marketing uses to retail and industrial sources for—filing—labeling—mailing—identifying—for the office, plant, store, home.

This sparkling new STIXIE product is the most versatile, yet economic pressure sensitive label stock you can buy. Print it—use a typewriter, pencil, ball point, fountain pen—erase it—use it over and over—you'll be delighted with its efficiency and durability.

Bond STIXIES come in rolls or sheets and are furnished with either BP Formula 3 permanent (tamperproof) or removable Adhesives. Write for a free Bond STIXIE sample and price list today.

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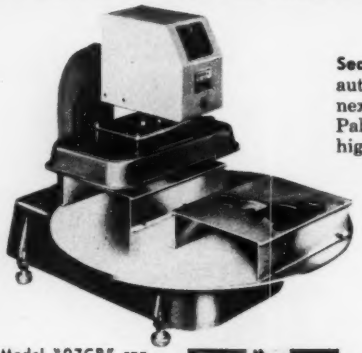
ONLY $23.87 PER MONTH

Leases New Automatic Blister Sealer



Seals blister every 3 seconds ... table automatically rotates and seals while next package is being loaded. Clear-Pak Jr. "06CP" is fully powered for high speed economical production.

Easier-than-ever to operate ... one inexperienced girl can load and seal in every 3 seconds. Delivered in your plant ready to connect and operate.

Easy size or shape change-over ... less than 5 minutes. Low cost dies can be made in your own shop.

Compact... only 18" x 30" bench area is needed for "06CP".

Send for details on new leasing plan or outright purchase, today!

Model "07CP" can automatically seal 10 x 13" blister packages or any number of smaller packages, depending on sizes ... rents for $37.15/month.

Model "04CP" with manually operated table rents for $13.55/month.

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Dept. MP, Addison, Illinois

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Plants & People

[*Continued from page 178*]

pany has been in operation for over a year producing custom-made and stock cartons for the garment, meat processing, confectionery and bakery trades.

Consolidated Paper Company, Monroe, Mich., has announced plans for a corrugated sheet plant in Pulaski, Tenn. The plant is scheduled for completion in November.

Ultrasonic Industries, Inc. has moved to a new plant at Ames Court, Engineers' Hill, Plainview, L. I., N. Y.

Tipper Tie, Inc., has moved into a new plant and office building at 407 Chestnut St., Union, N. J. Tipper Tie, which manufactures clip-closure equipment, has also opened a Western branch at 1011 Beecher St., San Leandro, Calif.

A new corrugated-container plant in Danville, Ill. is now in full operation for **Hoerner Boxes, Inc.,** Keokuk, Iowa. **Robert E. Wilson** is gen. mgr.

Protective Lining Corp. has moved to an enlarged plant at 601-39th St., Brooklyn 32. The company manufactures plastic liners for drums, cans, pails and cartons.

Lord Baltimore Press., New York, a sub. of **International Paper Co.,** has opened a New England office at 6 Wood St., Nashua, N. H. The office will be directed by **Samuel T. Herrick.**

Promotions

Frank Lundblad: to mktg. services mgr.; **Dan Newcomb:** to mktg. mgr., Eastern div., both **W. R. Grace & Co., Cryovac Div.,** Cambridge, Mass.

Russell E. Vannatta: from plant mgr., Cincinnati div., to division mgr., **The Mead Corp.,** Dayton, O.

Arthur J. Myers: to Cleveland district mgr.; **George F. Klein:** to Chicago district mgr., both packaging div., **Dobeckmun Co.,** div. of **Dow Chemical Co.,** Cleveland.

J. Robert Beatty: to sales mgr., Chicago plant, and **Thomas F. Bensinger:** to asst. regional sales mgr., Memphis, **Illinois Paper Products Div., Owens-Illinois Glass Co.,** Toledo, O.

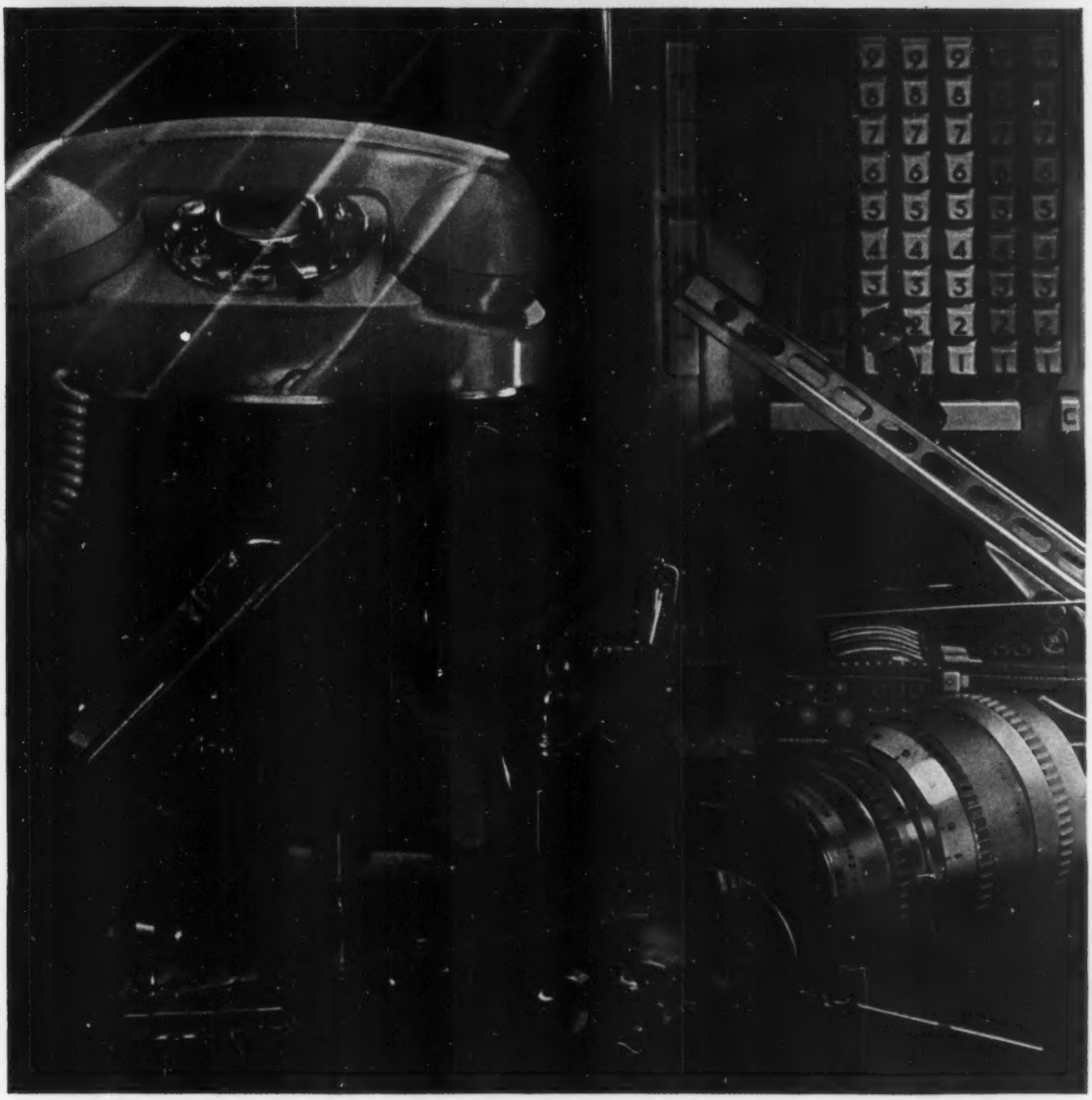
William C. Buffing, Jr.: to v.p., **National Starch & Chemical Corp.,** New York. He will continue to serve as treas. of the firm.

Philip M. Barnhart: to Midwest mgr., flexible packaging div., **Nashua Corp.,** Nashua, N. H.

Walter J. Young: from director of creative packaging to v.p. and creative director, packaging, **Lippincott & Margulies, Inc.,** New York.

Joseph D. Russo: to supervisor of technical development laboratory in San Francisco, **National Starch & Chemical Corp.,** New York. He will be

POLY-technics* for capability...



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What properties are critical in the packaging of your products? ■ Moisture barrier qualities? ■ Impact strength? ■ Tensile strength? ■ Sealability? We will bring to *your* application our know-how in polyethylene packaging... our depth of experience gained in meeting numerous past challenges of industry... plus research facilities geared to tackle new problems as they arise. We challenge you to challenge us. Throw down your gauntlet here.

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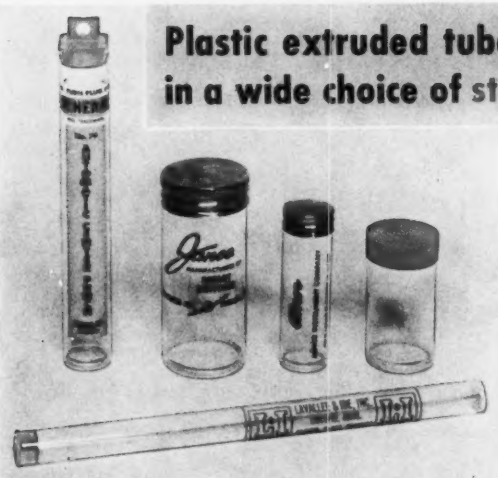
PACKAGING FILM DIVISION
KORDITE CO., MACEDON, N.Y.
A DIVISION OF NATIONAL DISTILLERS & CHEMICAL CORP.

** A specialized Kordite science... the economics of polyethylene packaging.*



Plastic extruded tube CONTAINERS in a wide choice of stock diameters

available in

ANY LENGTH

with screw caps, colorful friction or hang-up closures*

DECORATED

in as many as

4 COLORS

FLEX CONTAINERS are **custom made** to your exact length requirements, to suit your product perfectly, from modest quantities to large volume runs . . . at **no mold or tooling cost** to you!

Flex

We offer extrusion and closure molding facilities for special packaging needs and invite inquiries.

Write for free samples and catalog

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PRODUCTS CORPORATION

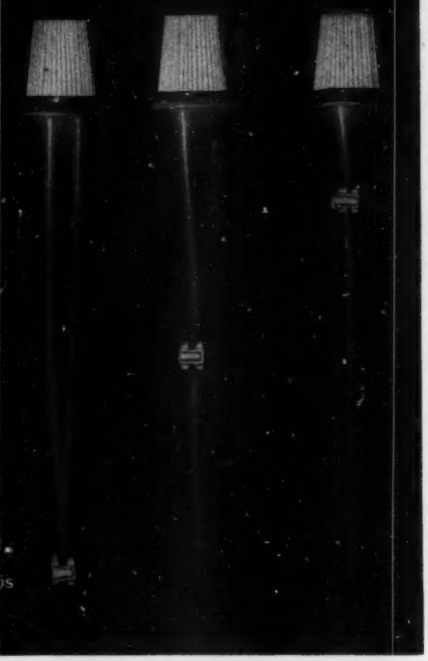
231E MEADOW ROAD (ROUTE 17) RUTHERFORD, N. J.

NEW Sliding Clasp

FOR SQUEEZE TUBES OFFERS THESE 4 BIG ADVANTAGES:

★ Prevents flow back of material
★ Eliminates air accumulation
★ Available in all sizes
★ Can be machine applied with no extra handling

For additional information, write today!



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sales co., inc.

P.O. Box 194, Chicago 17, Illinois

Telephone: SQuthshore 8-1120

Plants & People [*Cont'd*]

responsible for adhesive technical development and service functions of the West Coast div.

Murray Nadel: from gen. mgr. to v.p., **Augusta Plastics,** Bronx 69, N. Y.

Ernest Williams: to gen. mgr., **Rossotti Lithograph Corp.,** North Bergen, N. J.

J. Edwin Porter: to Pittsburgh district mgr., commercial container div., **Ball Brothers Co.,** Muncie, Ind.

Appointments

John W. Hoskins: from Eastern sales mgr., **F. B. Redington Div., Crompton & Knowles,** to gen. sales mgr., **Arthur Colton Co.,** Detroit.

W. Howard Winters: to Midwestern regional mgr., **Crown Cork & Seal Co.,** Philadelphia.

Lamar D. Roy, Jr.: to Louisville district sales mgr., **Hazel-Atlas Glass div., Continental Can Co.,** New York.

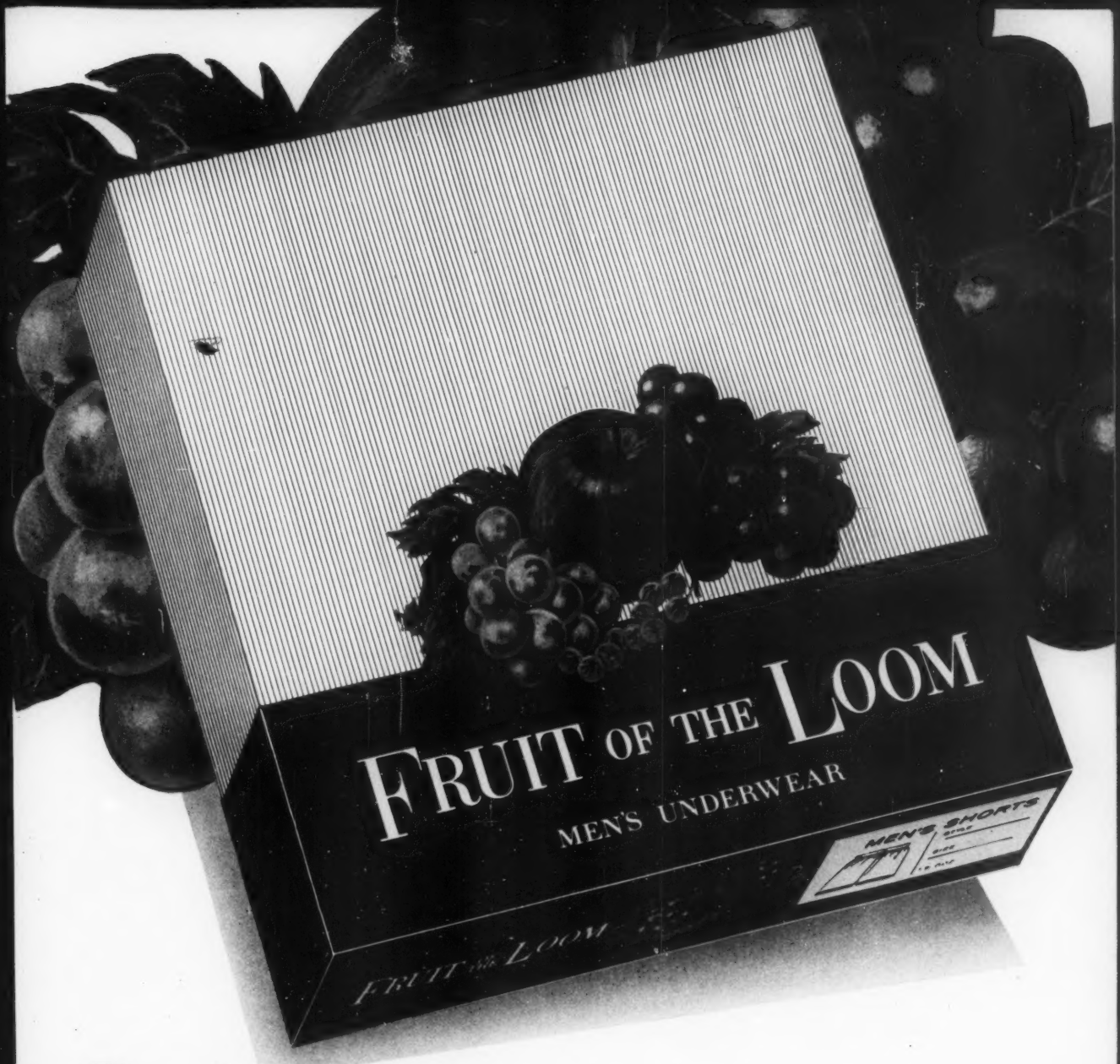
Lawrence Tomsky: from asst. v.p., **Standard Brands,** to regional sales mgr. for West Coast and Rocky Mountain area, **Pollock Paper Co.,** Dallas, div. **St. Regis Paper Co.,** New York.

Obituaries

Thomas C. Sheffield, 50, v.p. of the **Sheffield Tube Corp.,** New London, Conn., died April 7 of a heart attack in Reseda, Calif. Mr. Sheffield is the son of **L. Tracy Sheffield,** pres. of the 111 year old firm, and the nephew of **W. Kye Sheffield,** exec. v.p. A graduate of Yale University, Thomas Sheffield has been in charge of the company's Western tube sales for 14 years. He was active in many phases of West Coast packaging, including membership in the Pharmaceutical Mfrs. Assn., California Packaging Club, California Cosmetic Assn., QSAD Centurions and other business organizations.

James Donald Studley, former packaging advisor on the U.S. Army General Staff and chairman of the Army Packaging Board, died April 20 in Sumner, Md., following a fall at his home there. He retired in 1957 after 30 years of government service during which time he also served on the War Production Board as a packaging and paper-products specialist, as Chief of Packaging in the Navy Bureau of Ships and as a member of the Navy Packaging Board. Since retirement, Mr. Studley had served as packaging consultant to **Westinghouse Electric Corp.** and was on the staff of **Packaging Consultants, Inc.,** Washington, D. C.

James S. Ervin, a director of **E. W. Bliss Co.,** Canton, O., died March 7 in Pittsburgh. He was 75. Mr. Ervin became a director of Bliss in 1955 when Mackintosh-Hemphill Co., of which he was pres., became a Bliss div.



Quality... A Profitable Tradition

There's a valuable lesson in merchandising for all to see in the success story of Fruit of the Loom men's and boy's underwear.

First and fundamental, of course, was product quality. But many consumers can't judge that on their own. So... since back in 1938, Union Underwear Co. Inc. has been using Sutherland *quality* cartons for their instantaneous quality impression to prospective customers.

And customers got the story—to make Union Underwear the largest producer in the world of men's and boy's underwear!

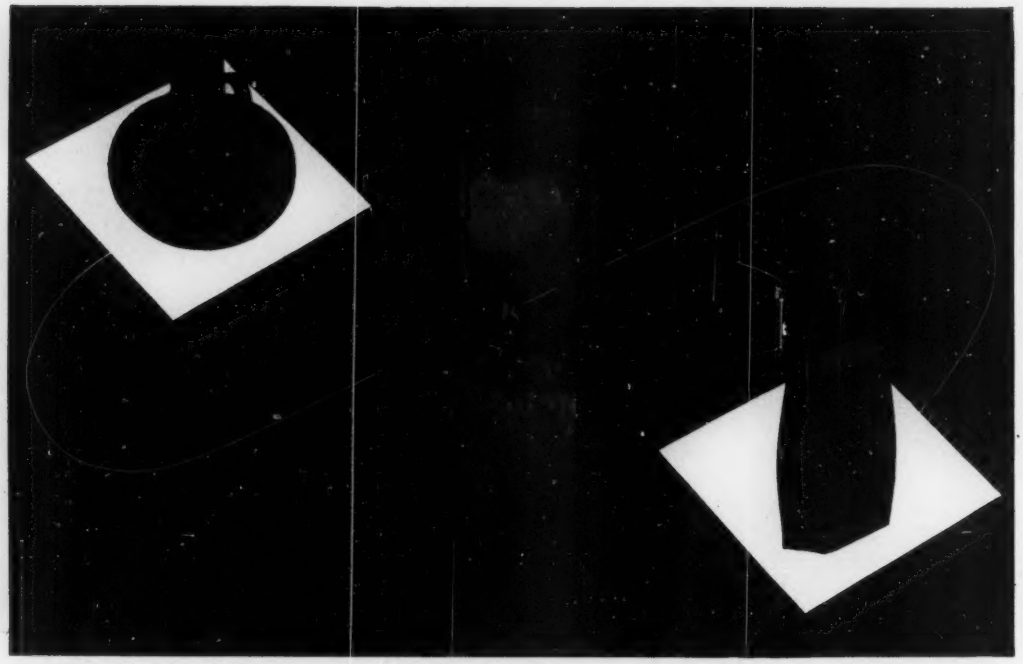
Fruit of the Loom underwear cartons have been outstanding in their field, as is this new design that is lithographed in full color to tie-in with other promotion programs.

There's a representative near you to show you this and other Sutherland packaging successes. Write now to make sure he sees you soon.

KVP SUTHERLAND

..the paper people

KVP SUTHERLAND PAPER COMPANY
KALAMAZOO, MICHIGAN



PAST, PRESENT AND FUTURE

in transparent film packaging . . . tremendous experience amassed over the years, and continuous research today, enabling us to lead the way in new development — these are the factors that guarantee you the most knowledgeable, most useful opinion on your own particular packaging problem. Do you want advice on the transparent packaging film that will suit your product best? We have scientists and technicians, the foremost in their field, to help you select the appropriate one. They may suggest cellulose film in one of its many types. Perhaps you may need BCL polythene film. Or your product may be an 'awkward' one — something you thought could never be packaged visibly . . . like a liquid, a cream or paste, a powder; acid, alkali, grease, salt; a heavy, sharp article. In this case we should probably recommend polythene-coated cellulose film or one of our new plastic films.

Contact us now for further details and samples of our films. And if you need practical help to use them to best advantage, we are ready and keen to co-operate with you.

BCL

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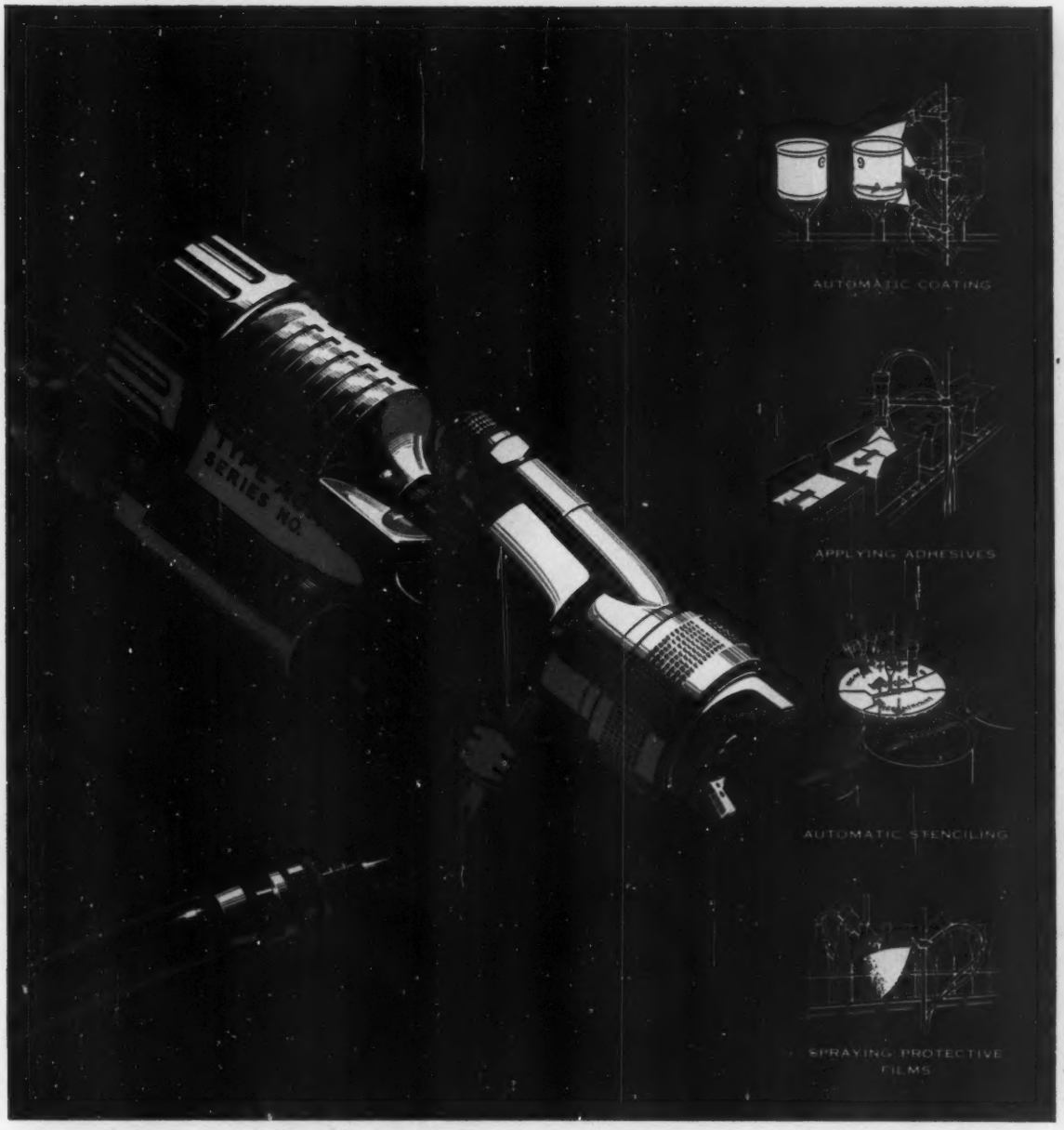

automatic spray by DeVilbiss applies any liquid with uniformity, control, and accuracy not possible with other coating methods. It is so versatile that adhesives, paints, surface-protective films, dyes, emulsions—even mastics—can be evenly applied over specific areas with split-second timing. Wasteful overcoating is eliminated; your packaging costs substantially reduced.

Talk to DeVilbiss about all your automatic spray-coating needs

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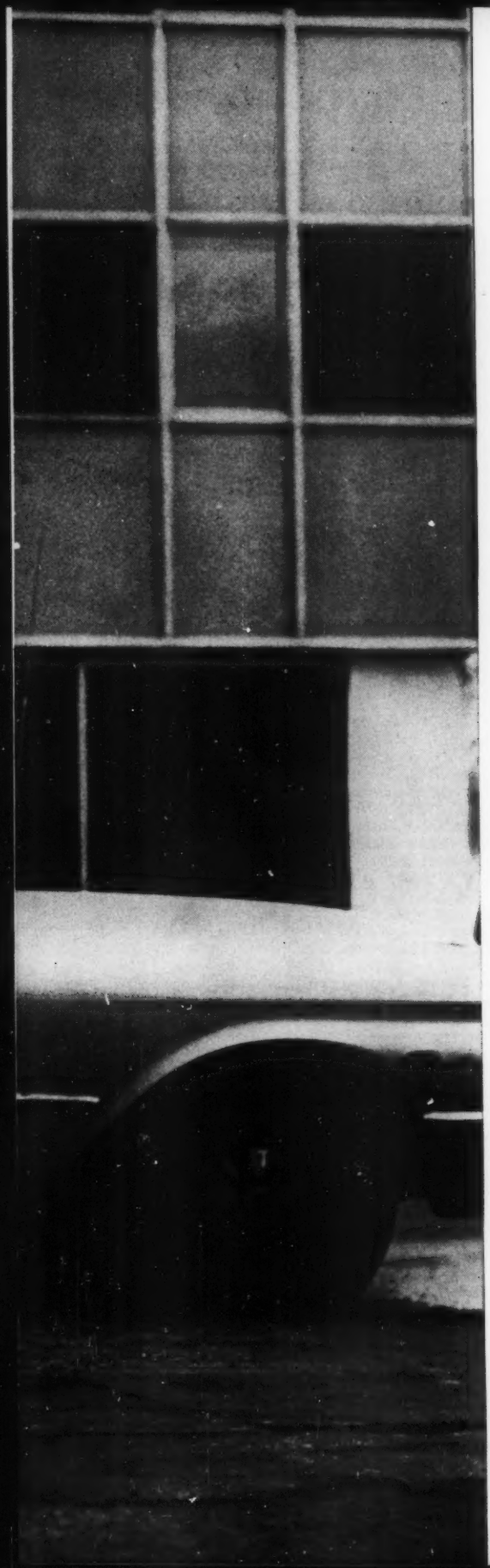
THE DeVILBISS COMPANY, Toledo 1, Ohio. Also Barrie, Ontario; London, England; São Paulo, Brazil. Branch offices in principal cities.



Your Anchor Man brings you SPECIALIZATION in glass packaging

Your Anchor Man knows glass packaging. He brings you all the benefits of Anchor Hocking's half-century of specialization in glass packaging. And he is supported in depth by experienced research, engineering, quality control and service technicians.

To most completely meet your diverse needs, your Anchor Man offers you an extensive line of Anchorglass containers—in crystal, amber, emerald green, georgia green—in all standard styles, sizes and finishes. He also supplies an equally complete line of Anchor twist, lug, screw or friction-applied metal caps and machines to apply them at speeds ranging from 30 to 1,000 per minute. In addition, he offers you molded closures in a variety of attractive designs and colors. And, to keep your production lines running smoothly and efficiently, you can always count on prompt, personalized service. Anchor Hocking Glass Corporation, Lancaster, Ohio.

ANCHOR HOCKING

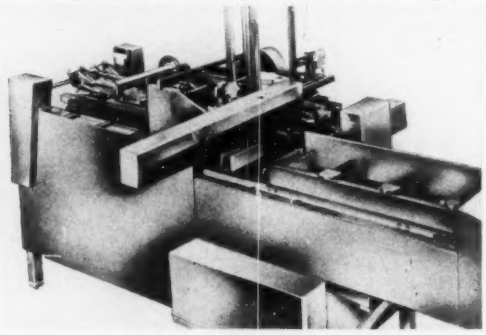
Specialists In Glass Sales-packages

EQUIPMENT & MATERIALS

[*Continued from page 58*]
reject mechanism for removal of unacceptable containers from the line, the supplier says. An adjustable base is available to allow quick change in fill level for containers of different heights in a single production line. *General Electric Co., X-Ray Dept., 4855 W. Electric Ave., Milwaukee.*

Portable, automatic cartoner

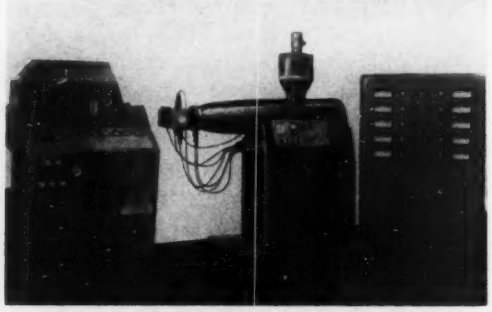
Omni-Pac, an automatic packaging machine for ice-cream novelties, is now available from Integral Packaging. The machine packages the frozen products into a waxed paper-



board carton, eliminating the need for more costly wraps. The cartons are lithographed in four-color patterns to give increased sales appeal and embody the use of pre-applied adhesives which eliminate the need for glue operations by the packager. The portable machine is said to be readily adjustable from one carton size to another and to be applicable for bakery and meat packaging as well. *Integral Packaging Co., Box 518, Chicago Heights, Ill.*

Plastic cups straight from the extruder

Reifenhauser KG has made available through its U. S. sales corporation a complete "plastic container plant" that produces cups and containers straight from the extruder. The line consists of a Reifenhauser extruder, complete with



control panel; a flat film die, and a forming machine (the latter manufactured by Hoppner & Schumann of Troisdorf, W. Germany). The plant functions continuously and is said to be fully automatic. Plastic pellets are processed by the extruder into a thin sheet which is fed, at the extrusion temperature, to the forming machine. The film is then drawn to the articles desired. Practically all types of thermoplastic resin can be successfully handled by this equipment, but particularly economical is the processing of rigid, unplasticized PVC into beakers, containers, tubs and other items, says the supplier. The die width ranges from 7.1 to 23.6 in. for the different types of equipment. The machine is reported to display great versatility in shaping of containers—for instance, with or without a rim or lip, cylindrical, bottle-like and others. Forming is done either by vacuum or compressed air or simultaneous application of both. It can also be plug assisted. The forming machine is said to be capable of processing 2,000 to 12,000 containers per hour. If the diameter is kept constant and the drawing depth reduced, these speeds can be increased, says the company. *Reifenhauser U. S. Sales Corp., 111 Eighth Ave., New York 11.*

Colored, cast-coated cartonboard

Glosscoat, a new on-machine cast-coated cartonboard, has been developed by Interstate Folding Box. The supplier claims that it is the only cast-coated cartonboard available in colors and in higher calipers—up to 36 thousandths. The new method of cast coating directly on the board machine results in the advantages and economies of a single continuous operation, the company says. The high-gloss board is available in 10 pastel colors and white. It is said to be more flexible than other types of coated board, reportedly will not crack or peel when folded at 180 deg., has a high resistance to fading and resists dust, water, grease and general shelf abuse. No overprint varnish is needed. Several firms in the food, textile and sundry fields are reported to be using the new packaging board. *Interstate Folding Box Co., Middletown, O.*

New polyethylene resins

Two new polyethylene resins for low-temperature extrusion coating and laminating and a new polyethylene film resin which is said to have 40% greater impact strength than general-purpose resins are offered by Monsanto's plastics division. The new extrusion-coating resins are designated MPE 70 and MPE 72 and are reported to be especially designed for applying a tough, heat-sealable coating or inner layer to paper, paperboard, film, foil and textiles for resistance to water vapor, grease and oil. The supplier reports that field and laboratory tests of the new resins show that their melt indices and densities provide excellent balance of adhesion, heat-seal range, neck-down and draw-down. MPE 70, which has been extended to 6 lbs. a ream (less than ½ mil), is said to be suited for low-temperature extrusion. MPE 72 is reported to be applicable for coatings and laminations of ¼ mil and less, and to offer good adhesion and heat-seal qualities with acceptable neck-down on high-speed coating operations. The new film resin, designated MPE 706X, is said to have a strength-weight ratio that permits the use of lighter gauges to meet the toughness requirements of any specific application. The added strength is claimed to have been obtained with no sacrifice in scope of sealing range. Heat-seal studies made by the supplier are reported to show an acceptable sealing coefficient between 260 and 465 deg. F. Recommended extrusion temperatures are 10 to 15 deg. F. above those used for general-purpose resins; at these temperatures there is said to be no loss in output per hour. The new resin is designed to suit a range of surface and thickness requirements for industrial films—from less than 1 mil to 12 mils—and is available in non-slip, medium-slip and high-slip variations. The supplier recommends its use for vapor barriers, shipping sacks and liners for cartons, drums, boxes and barrels. Additional details are available from *Monsanto Chemical Co., Plastics Div., Springfield 2, Mass.*

Bag-top imprinter and coder

An automatic bag-top imprinter—said to assure clear, uniform printing of product specifications or codes above the sewing line of sewn multiwall paper bags—has been introduced by Bemis. The attachment is designed to be mounted on a sewing pedestal and imprints the bag as it is being closed. Developed by the supplier's packaging service, the unit uses an ink roll that eliminates the use of fluid inks,

If you formulate or use paraffin coatings...

Charts like these have been plotted for 18 ternary (3-component) systems containing two Epolene resins (E-10, E-11, E-12, N-10, N-11, N-12, C-10) and a standard 130° A.M.P. paraffin. In each system, the tensile strength and adhesion ratings are given for combinations of the two Epolene resins varying from 0 to 3%.

Eastman can help you achieve optimum performance with the right blend of polyolefin modifying resins

A paraffin coating formulation containing a combination of polyolefin modifying resins, rather than one resin alone, will most often provide the optimum balance between such important coating properties as tensile strength and adhesion.

To aid you in obtaining optimum properties for specific paraffin coating applications, Eastman offers seven basic types of low-molecular-weight polyolefin resins.

The properties of hundreds of paraffin-polyolefin blends have been precisely determined by our chemists. Much of this information is now available in a series of easy-to-use charts. Your local Eastman representative will be glad to bring over these charts and help you find the most efficient and economical combination of paraffin and Epolene for your requirements. Call him in and see how helpful he and his charts can be.

Epolene®

Eastman low-molecular-weight polyolefin resins

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Boston; Buffalo; Chicago; Cincinnati; Cleveland; Detroit; Greensboro, N. C.; Houston; Kansas City, Mo.; New York; Philadelphia; St. Louis. **Western Sales Representative: Wilson & Geo. Meyer & Company,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

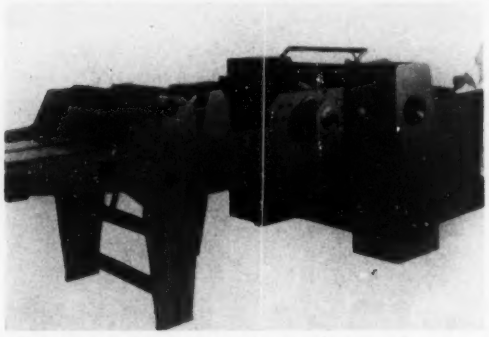
solvents, reservoirs and transfer rolls. Type, on a rotary printing wheel, can be quickly changed and the imprinter can be pivoted away if marking is not desired on certain products. Imprinting speed is synchronized with the speed of the conveyor and sewing head. Ink rolls are available in black, red, green and violet for quick identification in storage or shipping. For more information, contact *Bemis Bro. Bag Co., 111-H N. Fourth St., St. Louis 2.*

Wrapless, easy-open frozen-food container

Container Corp. has developed a folding carton for frozen foods that eliminates the need for an overwrap or inner liner. A three-flap lid, sealed to the outer sides of the carton after closing, is reported to provide sufficient product protection. Illustrative art can be successfully reproduced on the carton surface by offset or letterpress to increase sales appeal, says the company. The carton, called "Adapta-Pak," is top loaded. Available at option is a scored, "easy-open" pull tab. Container Corp. developed the carton and method for forming and loading it in cooperation with Kliklok Corp. A newly designed machine which closes and seals the carton is used in conjuction with conventional packaging lines. The sealer is designed to handle cartons with front and side dimensions of 5¼ and 4 in., respectively, with a depth range from 1¼ to 2 in. The carton, made from solid unbleached sulphate, is available in three moisture-resistant surfaces—regular, high-gloss wax or polyethylene. *Container Corp. of America, 38 S. Dearborn St., Chicago 3.*

Side-weld polyethylene bag maker

Printex S. A. has introduced a machine to produce bags from polyethylene tube by the side-weld method. The machine, Type 350 S.W., produces bags ranging in height and width from 2½ to 22 in., in varying thicknesses. Cutting length is adjusted by displacing a pivot on a driving disk. No change of wheel is required, the supplier notes. The machine permits the production of bags with or without a top flap. The unit is equipped with a photo-electric



cell to permit accurate positioning in relation to the printer. Belts that convey the bags to a reception table are controlled by an independent motor, thus synchronizing belt speed with the speed of bag production. The unit is also equipped with an automatic stacker that stacks bags in packets of 10, 20 or 25. *Printex S. A., Chaussee de Vilvorde 62, Brussels 12 (N. O. H.), Belgium.*

Radio-frequency plastic-foam process

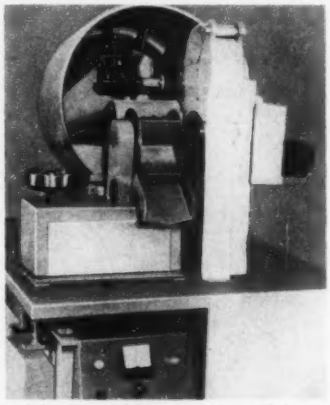
Dynatech reports the development of an economical technique for processing expandable polystyrene. It is a high-frequency process that is being used to manufacture expanded polystyrene containers. Faster mold cycles than are available by the steam process are reported and fusion is said to be absolute. The method was developed, says the company, in order to provide an efficient radio-frequency technique for molding polystyrene beads for in-line utilization. Addition of a chemical additive permits homogenous, arc-proof, uniform heating of the bead and eliminates the need for the high thermal requirements inherent in the steam process, the supplier says. The company is offering ready-to-go installations on a lease-purchase-royalty basis. *Dynatech Process, Inc., Hackensack, N. J.*

Film-grade polyethylene resin

Koppers' plastics division has begun commercial production of a new polyethylene resin—Dylan 2037—for extrusion into clear, glossy film by the blown-tubing process. Blown film made from this resin is said to exhibit excellent clarity and sparkle while possessing a high degree of strength, particularly in the creases. It can be extruded at high speeds, is easily colored and printed, and has good heat-sealing properties, says the firm. The supplier notes that the resin demonstrates excellent extrudability over a temperature range of 325 to 425 deg. F. Film made from the resin can be converted into bags or overwraps for packaging such items as toys, novelties, candy, baked goods, textiles, paper products and other items. *Koppers Co., Inc., Koppers Bldg., Pittsburgh 19.*

Accurate, automatic parts counter

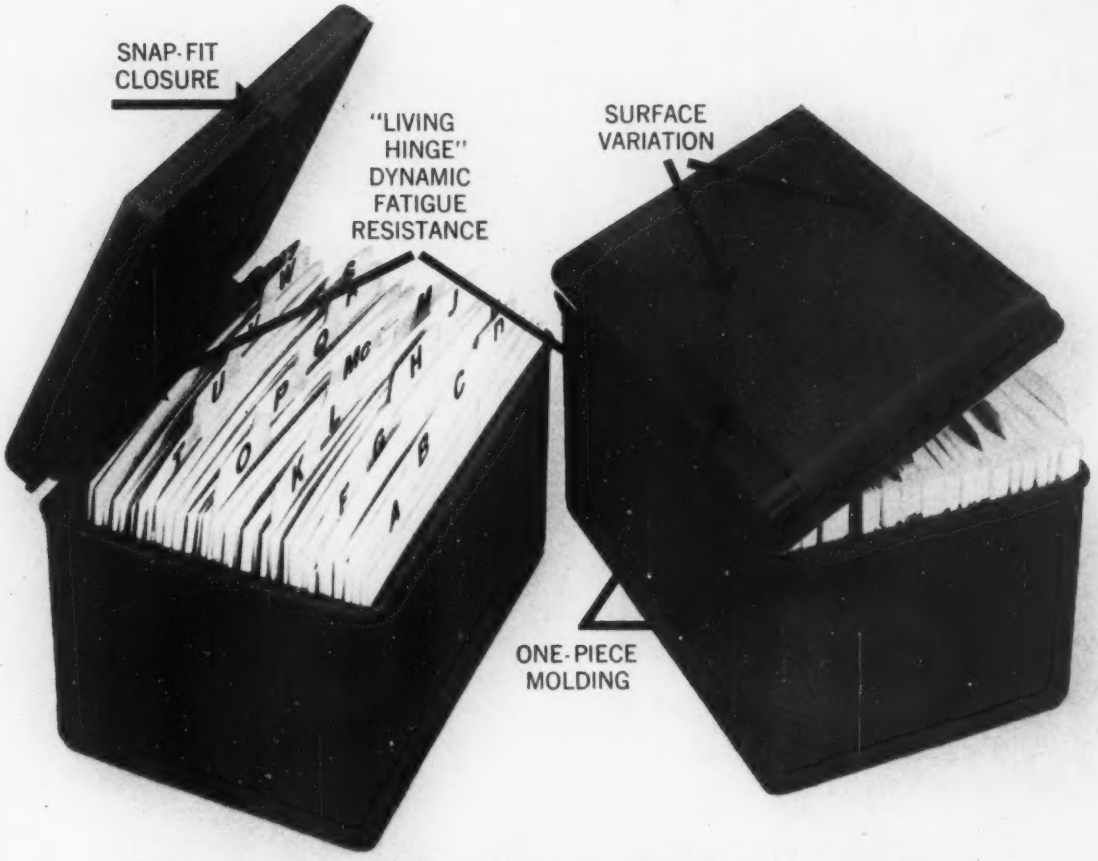
A new, electronically controlled parts counter which bulk counts and batches in small lots—reportedly handling up to 450,000 items per hour—has been introduced by Atronic Products. The counter is said to be automatic and to be able to handle a variety of items—from paper clips and ball bearing assemblies to candy and drug capsules. Designated Model 620, it handles items ranging from 0.01 to 2.5 oz. in weight. It operates, says the supplier, on the principle of weighing parts in sufficiently small batches to permit an accurate count without regard to manufacturing tolerances of parts. Acceptance limits can be pre-set to allow any deviation up to plus or minus six pieces. The machine can thus give exact or approximate batching. *Atronic Products, Inc., West Conshohocken, Pa.*



Pressure-forming machine

The Poly-Pack, a blow-forming machine which is claimed to offer accurate, high-speed, economical production of transparent containers or blisters, is available from Abbott Plastic Machine Corp. Continuous rolls of biaxially oriented sheet polystyrene—transparent or colored opaque—feed automatically into the unit and emerge as finished, blanked containers or blisters. The unit is reported to tie in with existing production-line equipment so that completed forms can feed directly to filling, assembly or labeling lines. Strong, transparent containers—reportedly ideal for frozen, processed or powdered foods, drugs, hardware and other items—are produced by the unit. The containers are claimed to give excellent protection at very low cost. The unit is said to feature quick, simple mold change-over, to cut down time. Speeds vary according to package size and type. The machine is composed largely of standard parts so that custom-designed models can be built economically to fit special needs, the supplier notes. *Abbott Plastic Machine Corp., 7124 N. Clark St., Chicago 26.*

WHAT'S NEWS IN PLASTICS



File box with "living hinge" shows design versatility of Escon® polypropylene

A "living hinge" with extraordinary life, snap-fit closures to replace metal parts, various surfaces—gloss, matte or textured—these are just three of the countless design possibilities when you mold with versatile Escon polypropylene. Testing of "living hinges" was discontinued after 1,300,000 flexes without signs of weakening.

Escon polypropylene offers molders a balanced combination of properties for high-speed, continuous production. These include resistance to acids, alkalies and corrosion; high strength; low volume cost; negligible water pick-up; high heat distortion point; excellent electrical characteristics; abrasion resistance; easy processing and many more. For technical assistance, write to Enjay at 15 West 51st St., New York 19, N. Y.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY

ENJAY
PLASTICS

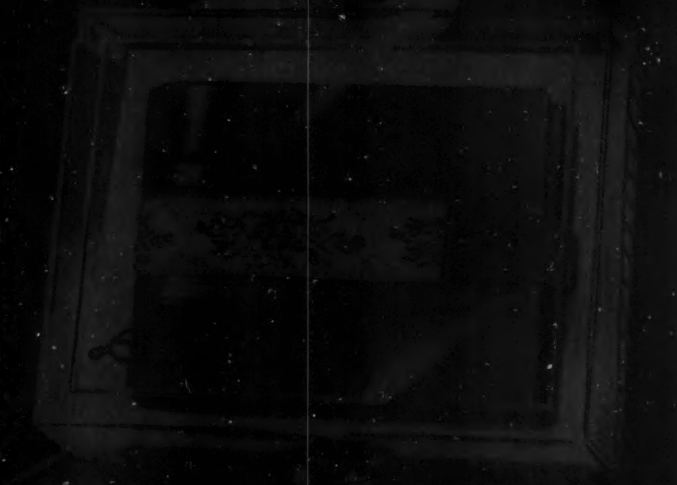
MONEY GOES HIGH-FASHION

. . . in a package designed by Plastene

Money is always in style, particularly when it's in an Amity Leather wallet. And what makes these wallets more appealing (even when empty) is the unique package they now come in—a molded styrene package designed and fabricated by Plastene.

This package, another Plastene 'first,' was created by one of Plastene's renowned designers, then precision-engineered and precision-fabricated by experienced Plastene craftsmen. Plastene's attention to detail, its broad skills and capabilities and its three plants strategically located in Crawfordsville, Ind., Norwich, Conn., and Anaheim, Calif., are a few of the reasons so many prominent firms order (and reorder) from Plastene. Such companies as The U.S. Time Corp. (Timex), Fram Corp., Sears Roebuck & Co., The American Thermos Products Company, Amity Leather Products Co., and Lily-Tulip Cup Corp., are among Plastene's satisfied customers.

Whatever your field, bring your packaging problems to Plastene for an economical, high-fashion solution. Plastene experts will work with you to create new packages in such materials as polypropylene, polystyrene, polyethylene, acrylic, acetate, delrin and nylon. Write today.



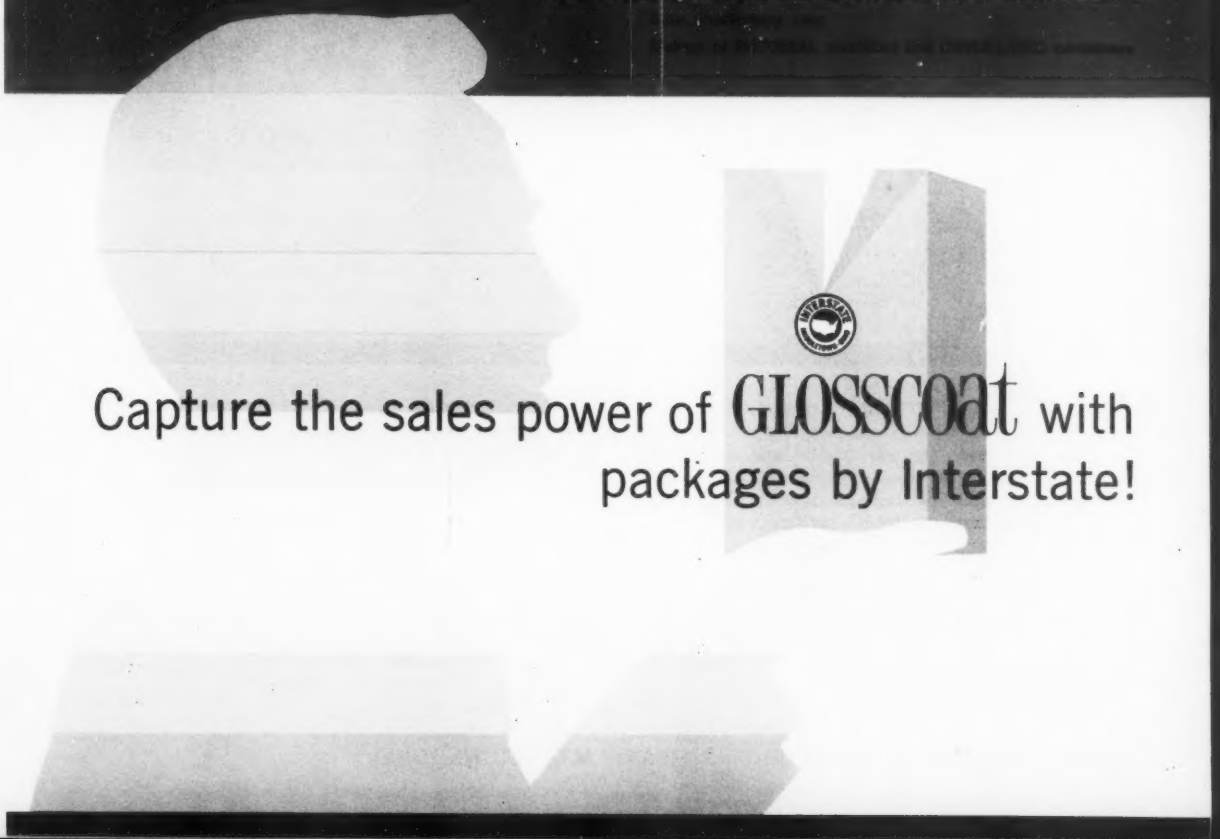
PLASTENE

Plastene Corporation, Crawfordsville, Indiana • Subsidiary of The American Thermos Products Company

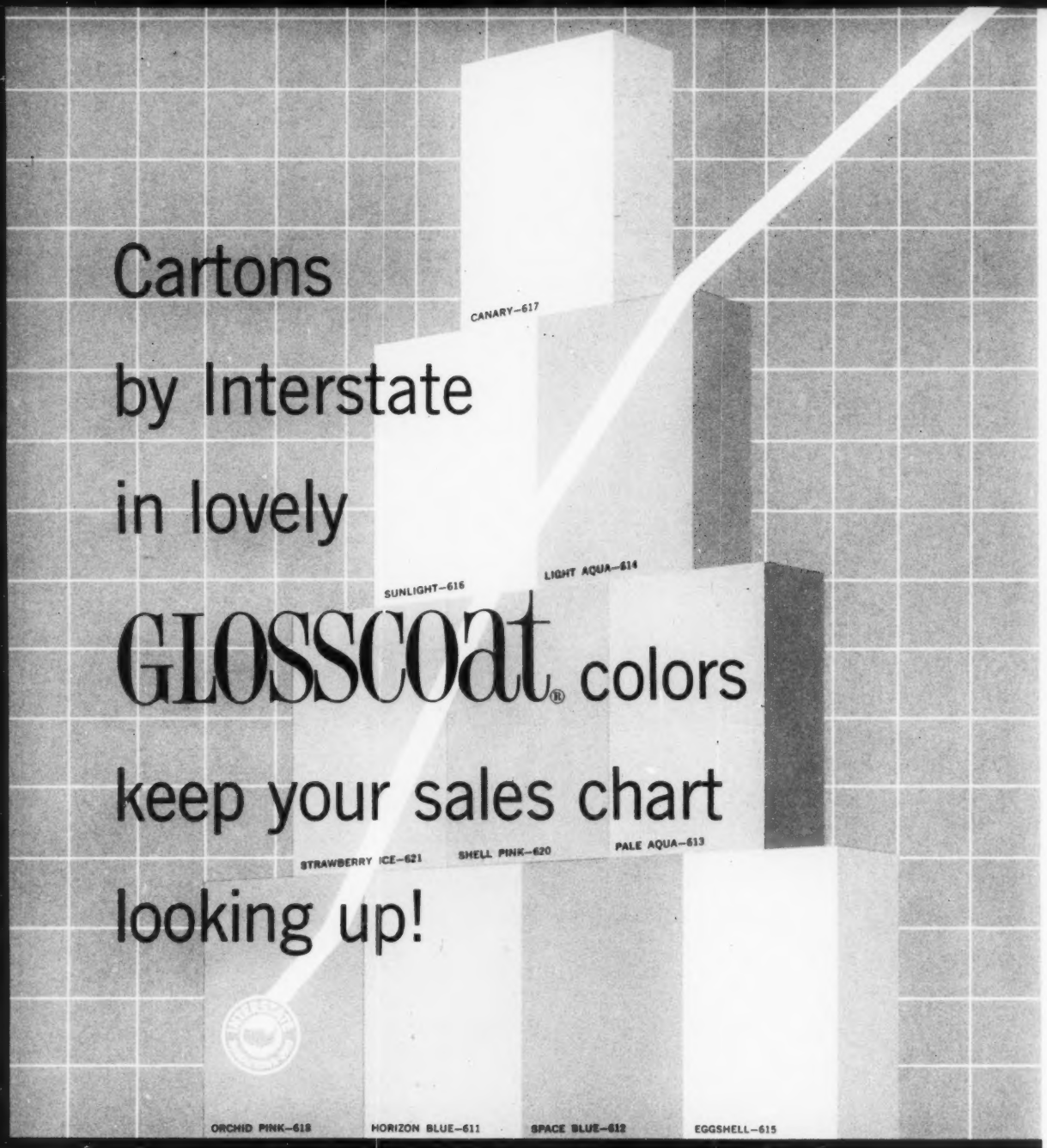
GLOSSCOAT

Now-longer lasting shelf beauty costs less than you think!

THE INTERSTATE FOLDING BOX COMPANY, Middletown, Ohio



Capture the sales power of GLOSSCOAT with packages by Interstate!



Cartons by Interstate in lovely GLOSSCOAT® colors keep your sales chart looking up!

Glosscoat is the first pre-cast clay coated boxboard—and the only cast coated boxboard made in a full range of luscious pastel colors and white. With a built-in resistance to abrasion, moisture and shelf abuse Glosscoat's high gloss eye appeal will help keep your sales chart looking up.

Interstate, exclusive maker of Glosscoat, has prepared exclusively for recognized designers and packaging development personnel of volume carton users* a portfolio-brochure entitled, "Designing with Glosscoat."

*Available to others at $5.00 per copy

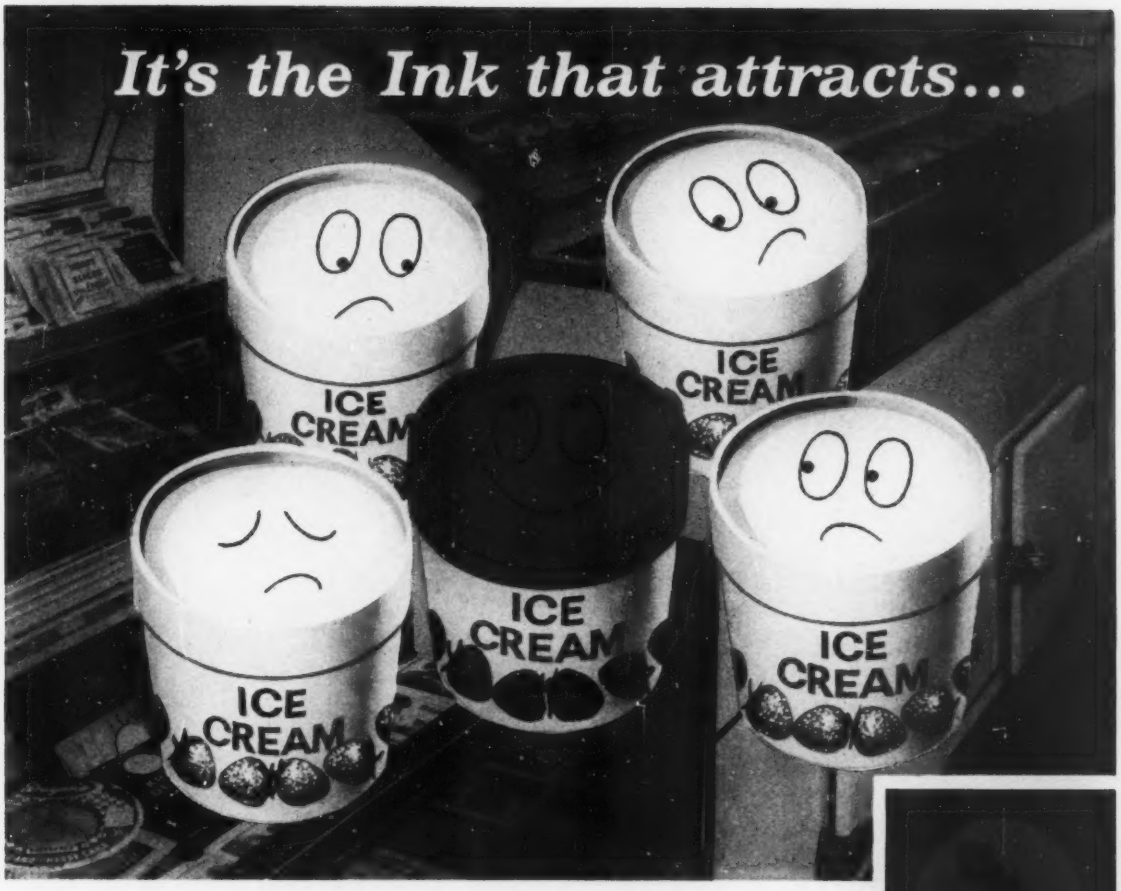
We believe you will find "Designing with Glosscoat" to be the most stimulating portfolio ever developed to show how the same 4-color process illustration creates entirely different buying (and selling) moods when reproduced on Glosscoat's 10 different pastel colors.

If you are concerned with the designing, advertising or selling of mass produced products whose packaged shelf appeal is an important measure of their consumer acceptance, please request, on your company letterhead, your personal copy of "Designing with Glosscoat."

THE INTERSTATE FOLDING BOX COMPANY, MIDDLETOWN, OHIO

50th Anniversary Year

Makers of ROTOSEAL machines and INNER-LINED containers



and the ink you'll see is...

BBD FLEXOGRAPHIC INKS can help your product, package or promotion to higher sales because BBD inks are developed and tested in modern research laboratories to assure you of superior trouble-free performance. Years of field experience with BBD flexographic inks have proved their superiority on standard flexible packaging materials . . . or on custom applications. Why not get acquainted with BBD's line of modern flexographic inks . . . and the down-to-earth service that goes with them. You'll appreciate both.

For more information on any BBD product, please call or write:

	Cellophane: Plain	Cellophane: Moisture-proof	Cellophane: Baryta and Polymer-coated (treated)	Cellophane: Polyethylene (treated)	Aluminum foil	Paper & Board	Glassine	Pliofilm	Saran	Vinyl	Polystyrene	Acetate	"Mylar" & other Polyester films
ACETOPAKE												●	
EXCELLOPAKE 400 X-TRA	●	●		●	●	●	●						
FLEXOKRAFT						●	●						
FOILBRITE					●								
THERMOFAST		●											
TRANSLUSTRO						●	●						

DOUBLE DUTY INKS for FLEXOGRAPHIC or GRAVURE PRINTING

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MUL-T-BRITE	●	●	●	●	●	●	●						●
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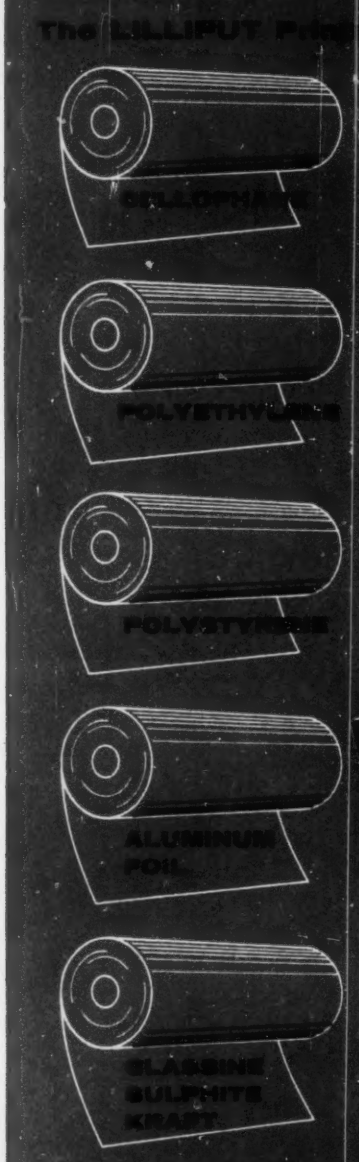

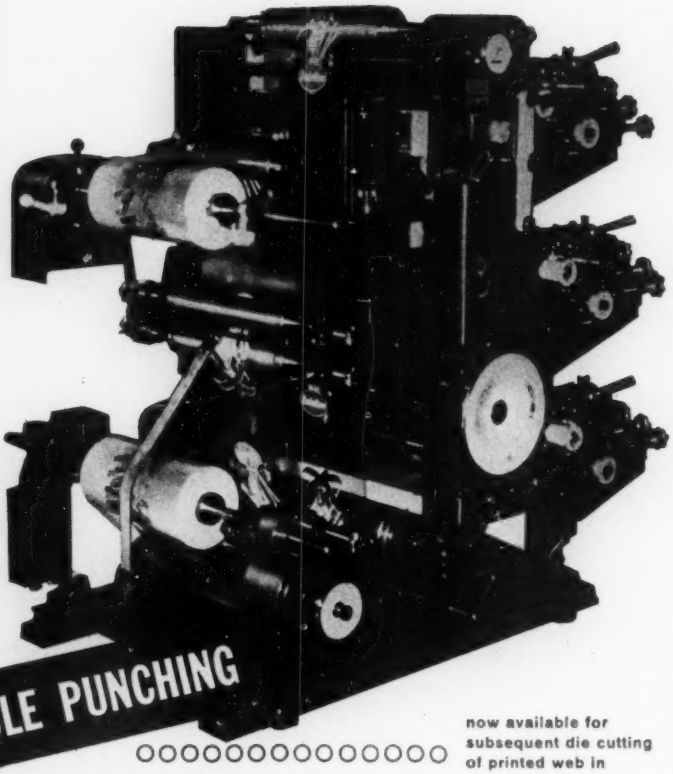

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Narrow-width materials are in great demand for numberless packaging items. For outstanding multi-color printing on these narrow webs, the LILLIPUT provides proven, dependable operation, quality printing and good register.

This highly versatile press prints equally well on a large variety of materials and can be quickly changed from job to job. Above all, *it is attractively priced.*

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Now, from West Virginia, comes a new super-tough, extra heavy Kraftsman *Clupak* extensible paper—the stretchable kraft that "gives" under impact where conventional kraft bursts! It offers new business opportunities for every converter.

This new kraft is made in three heavy-duty basis weights: 110#, 100#, and 90#, which means it can be used in making more efficient and less costly master shipping containers for packaged units or for dry bulk materials. It also has wide applications in industrial bundling because of its flexibility.

Now you can offer your customers a tougher, superior bag or wrapper at lower cost because one ply is usually enough to meet his specifications—and that means lower converting costs for you.

For samples and complete technical data on this new extra heavy Kraftsman *Clupak* extensible paper, mail the coupon to: Kraft Division Sales, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, New York.

**Clupak, Inc.'s trademark for extensible paper manufactured under its authority and satisfying its specifications.*

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WEST VIRGINIA PULP AND PAPER COMPANY
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New York 17, New York

Please send me full information on extra heavy Kraftsman CLUPAK extensible paper. I am considering it for:

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CITY_____ ZONE_____

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West Virginia Pulp and Paper

FOR YOUR INFORMATION

The complete printed proceedings of the **Packaging Institute's** 22nd annual National Packaging Forum are now available. Printed in loose-leaf form, the papers comprise 67 lectures and may be purchased as a complete set or in individual sections. The price is $5 per section, or $20 the set.

This year's PI Forum will be held Oct. 18-20 at the Biltmore Hotel, New York. As in past years, PI will present its annual corporate and professional awards at the forum.

The institute has also inaugurated a plan to give formal recognition to its members—both corporate and professional—in the form of certificates of membership. They are parchment-type, hand engrossed in red and black, include the PI seal and are framed.

Harold E. Pierce, Marathon Div., American Can Co., has been elected chairman of the **Waxed Paper Institute** for 1961. He succeeds **Robert M. Koch** of Zimmer Paper Products. Elected vice chairman was **Lloyd L. Fisher,** Western-Waxide Div., Crown Zellerbach Corp. The **Waxed Paper Merchandising Council** has elected Mr. Fisher to the post of pres. and board chairman and Mr. Pierce to v.p.

Pierce *Fisher*

Lloyd Stouffer, Editor of MODERN PACKAGING and Editorial Director of *Modern Packaging Encyclopedia,* will be the moderator of a panel session on "Plastics in Packaging" during the 1961 Conference of the **Society of the Plastics Industry** at the Commodore Hotel, New York, June 6-8. The packaging session is set for 9:00 a.m. Wednesday, June 7, in the Grand Ballroom. Speakers will include: **Donald Mahaney,** market specialist, Monsanto Chemical Co., on "Present and Future Penetration of Plastic Packaging in 14 Major Markets"; **Florren E. Long,** mgr. of product development and research, flexible packaging div., Continental Can Co., on "Flexible Plastic Packaging Films"; **Alvin J. Sanders,** supervisor, package construction, Colgate-Palmolive Co., on "Plastic Bottles, Tubes and Other Merchandising Packages," and **F. Norman Hartmann,** v.p. planning and development, Lily-Tulip Cup Corp., on "Rigid Plastic Nestable Containers."

Jerome H. Stone, Stone Container Corp., has been elected pres. of the newly formed **International Corrugated Case Assn.** at its organizational meeting in Paris on Mar. 17. Mr. Stone is also pres. of the **Fibre Box Assn.** The new association will hold its next meeting in New York in the autumn.

The **Institute for Better Packaging,** a trade association of paperboard packaging manufacturers devoted to the improvement of packaging techniques for dairy, frozen food and meat products, is undertaking an expanded program of research and promotion and has announced its 1961 committee chairmen. Chairmen are: ice cream div., **John J. Braham,** St. Regis Paper Co.; frozen food div., **J. D. Scott,** Container Corp. of America; meat div., **Eugene V. Krueger,** American Can Co.; graphic arts, **John M. Callahan,** Richardson Taylor-Globe Corp., and public relations, **William Nenstiel,** Continental Can Co.

Downingtown Paper Co., Downingtown, Pa., has prepared a booklet entitled "Paperboard Production." The booklet describes how paperboard is made and utilizes a number of photographs to illustrate the processes described in the text. The 20-page booklet is available without charge.

Paul S. Hanway retired April 30 as managing director of the **National Fibre Can & Tube Assn.** after 28 years as Administrative head of the group. Mr. Hanway, who has served the association since its inception in 1933, was honored at a special program on May 15, during the group's 28th annual meeting in Charleston, S. C., where he was presented with a plaque. Mr. Hanway served as pres. as well as managing director of the association from 1941 to 1943. He was an early leader in the informal inter-industry packaging group that concerned itself with ways to comply with the F&DA amendment. Prior to his affiliation with the association he was managing director of the **American Waxed Paper Assn.**

Hanway

D. A. Forsberg, pres. of Forsberg Paper Box Co., was re-elected pres. of the **Folding Paper Box Assn. of America** at its annual meeting in Chicago. New members of the exec. committee are **W. W. Fitzhugh, Jr.,** New Haven Board & Carton Co., and **E. B. Wall,** Federal Paper Board Co. **Kenneth R. West,** Andre Paper Box Co., was elected Pacific Coast Director of FPBAA.

The 28th annual meeting of the **National Fibre Can & Tube Assn.** was held at the Francis Marion Hotel, Charleston, S. C., May 14-16. Several technical sessions covered such subjects as the use and bonding of plastic and paper-plastic materials, value of professional engineering services, establishment of testing procedure standards for fibre tubes, self-heating of paper and new developments in European equipment and manufacturing processes.

Five authorities on preventive maintenance for packaging machinery will lead discussions on facets of this topic at the conference portion of the conference-workshop program to be conducted by **Packaging Machinery Mfrs. Institute** in conjuction with the PMMI show, Nov. 7-10 in Detroit. Included are **Edward Brennglass,** Packaging Corp. of America; **G. Douglas Reed,** McCormick & Co.; **Louis J. Rouleau,** Economic Machinery Co.; **Russell Beatty,** Wentworth Institute, and **Cornelius Wandmacher,** dean of the College of Engineering of the Univ. of Cincinnati.

R. Bruce Holmgren, editor of *Package Engineering,* received a "Packaging

[*Continued on page 203*]

Events

June 5-7 — **American Management Assn.,** orientation seminar on package marketing research, Astor Hotel, New York.

June 5-9—**Society of the Plastics Industry,** 9th national plastics exhibition and conference, Hotel Commodore and Coliseum, New York.

June 11-15—**National Confectioners Assn.,** 1961 Convention, Conrad Hilton Hotel, Chicago.

June 15-16—**Packaging Institute,** Petroleum Packaging Committee, June meeting, Sheraton-Blackstone Hotel, Chicago.

June 16-25—**Europlastica 1961,** Palais des Floralies-Parc, Ghent, Belgium.

June 18-24—**11th International Design Conference,** Aspen, Colo.

June 18-30—**Industrial Management Center,** annual materials handling course, Lake Placid Club, Essex County, New York.

June 20-29—**Italian Packaging Institute,** IPACK—International biennial packaging and materials handling exposition, fairgrounds, Milan.

June 21-July 1—**Interplas '61,** sixth international plastics exhibition and convention, Olympia, London.

June 25-30—**American Society for Testing Materials,** annual national meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.

July 2-4—**National Wooden Pallet Mfrs. Assn.,** 15th annual meeting, Chateau Lake Louise, Lake Louise, Alberta, Canada.

July 13-15—**National Wooden Box Assn.,** 1961 summer meeting, Cavalier Hotel, Virginia Beach, Va.

Better labeling...less work ...the HEAT SEAL way!

Heat Seal requires no glue, no water, no clean-up. Ideal for bag headers and containers of practically all shapes and materials. Instantaneous or delayed action. Made to exact specifications, for use with high speed equipment. Continuous rolls or individual.

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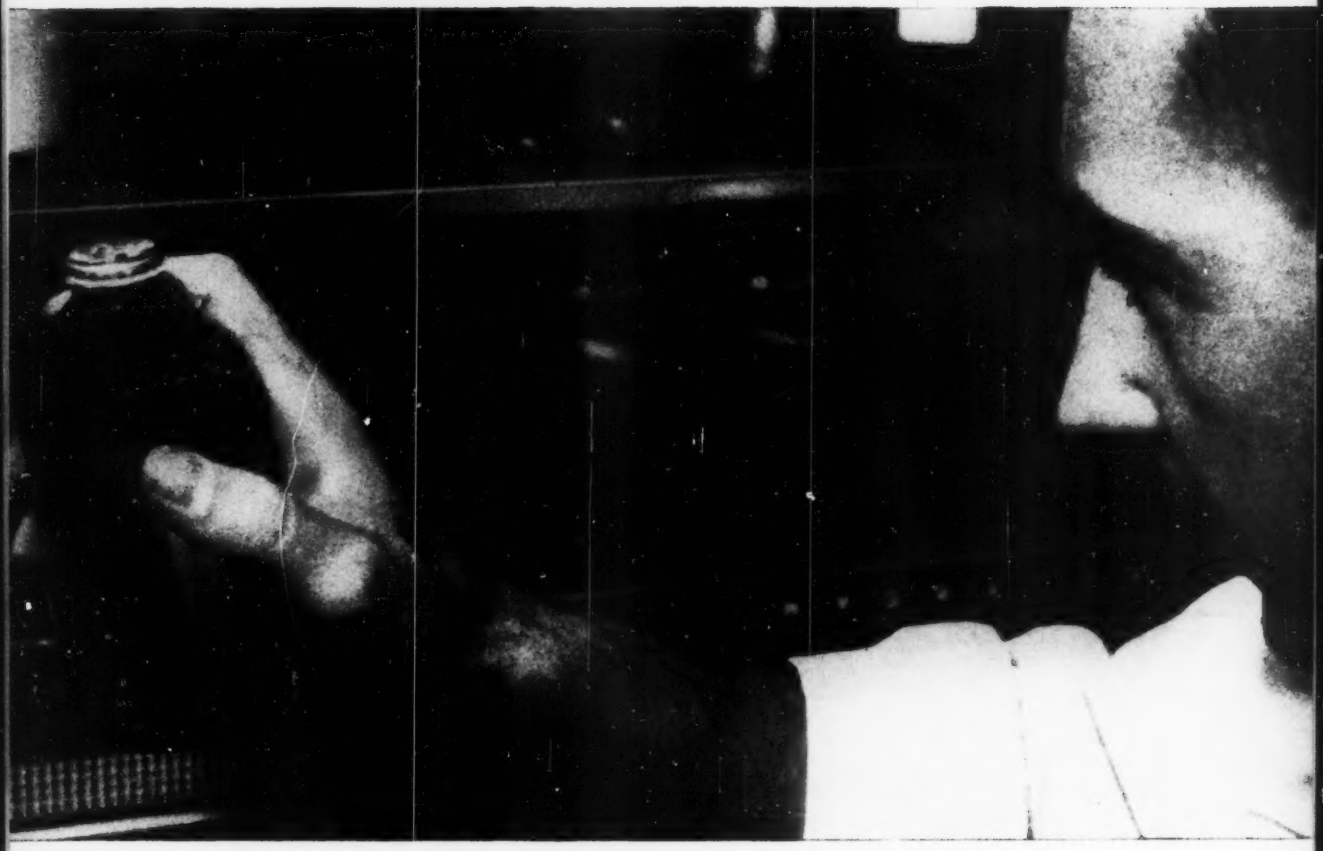

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liquors
vials and tubing

Integrity in glass since 1907

F.Y.I.

[*Continued from page 200*]

Man of the Year" award from the **Michigan State University Packaging Society** at its annual banquet in E. Lansing. **Dr. Harold J. Raphael**, assoc. professor, MSU School of Packaging, also received the award for his contributions to the school.

IPACK '61, the first international biennial packaging and materials handling exhibition, will open June 20 for 10 days at the Milan, Italy fairgrounds. The exhibition will feature packaging machines, tools, materials and finished packages. Along with the materials handling section will be a display of machinery for the confectionary and food industries. About 500 exhibitors have reserved space at the exhibit, including 67 W. German, 26 British, 22 French and 16 American. The Hon. Dr. Mario Saggin is pres. of IPACK, Comm. Enrico Granozio is v.p. and Dr. Enzio Landini is General Secretary. Further information may be obtained from the General Secretary, IPACK, Via Lanzone 4, Milan, Italy.

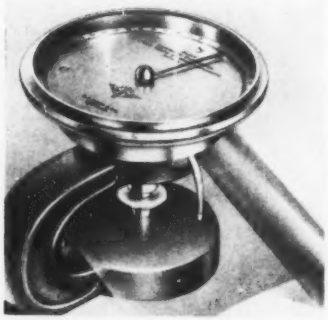
In conjunction with Interplas '61, at Olympia, London (June 21-July 1), The International Plastics Convention will survey current technical and commercial progress in thermoplastics. The first four sessions will review advances in polyolefins, vinyls and styrene polymers. The first two sessions (June 26) will deal with the polyolefins while the vinyls and styrene polymers will be the subject of the third and fourth sessions respectively (June 27). The fifth and sixth sessions (June 28) will present four papers on the processing of thermoplastics. Full texts of the three day convention sessions will be published later in the year in book form by Iliffe Books Ltd., and will be titled *Plastics Progress 1961*.

"Plastics—New Horizons In The West" was the theme of the 18th annual conference of the Western Section of the **Society of the Plastics Industry**, held April 26-28 in San Diego. The conference featured technical and management sessions on financing and distribution practices and new developments in the manufacture and processing of many types of plastics. There also were talks on applications of plastics, including packaging.

Albert S. Landers has joined the headquarters staff of the **Technical Assn. of the Pulp & Paper Industry** as supervisor of technical information. Mr. Landers, who has had broad experience in the paper and allied industries, will direct the association's technical information program designed to expand the present TAPPI data sheets to cover all areas of pulping, papermaking and converting technology.

Faber Birren of American Color Trends, a color-research firm, will apply studies of consumer behavior to predicting trends in color acceptance in all markets served by the **General Print-**

EXACT MICROMETERS
for calipering thicknesses of packaging materials from 1/1000th to 10/-000ths of an inch



Cady 10/1000ths Micrometer gives direct reading on thicknesses to 10/1000ths of an inch. Dial is glass covered; capacity is 50000ths of an inch.

New portable Cady Micrometer has $2\frac{1}{2}$ inch throat designed for exact thickness measurement in the plant or on the road. Graduations: 1/1000ths of an inch or hundredths of a millimeter. Capacity is one-half inch. Direct reading glassed dial.

Vernier converts thousandths to ten-thousandths. Designed for those requiring dead weight anvil action, vernier scale is attached to indicator blade and registers with thousandths graduations on dial. All Cady Micrometers meet ASTM and TAPPI standards.

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Reprints of articles, features and news items that appear in Modern Packaging are often surprisingly inexpensive when ordered in quantity. Many companies make it a practice to have stories which have a bearing on their business reprinted for distribution to their own personnel, customers, prospects, stockholders or to other interested groups. Whenever you see editorial matter of this type in Modern Packaging magazine or the Encyclopedia Issue which you can use in reprint form, in quantities of 200 copies or more, write and quotations will be furnished promptly.

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F.Y.I. [*Continued*]

ing Ink Div., Sun Chemical Corp. Based upon Mr. Birren's studies, GPI will release periodic reports to packaging, marketing, advertising, and printing production specialists who service printing-ink customers.

William E. Vaughn, American Can Co. was re-elected pres. at the recent annual meeting of the **Canning Machinery & Supplies Assn.**

The presentation of award prizes in the second **Bachner Award Competition,** sponsored by **Chicago Molded Plastics Corp.,** will take place June 7 at the St. Moritz Hotel, New York. The award —for products composed entirely of plastics materials—consists of a trophy for the winning company and $1,000 in cash to be given to the person or persons responsible for the achievement. A plaque will be presented to the industrial designer of the winning entry and honorable-mention citations will go to other entries of merit.

Aspects of "Plastics in Packaging" will be featured at the Canadian meeting of the **Society of Plastics Engineers,** to be held June 14 at the Sheraton Mount Royal Hotel, Quebec City. The technical program will number 10 papers on such subjects as blow molding, polypropylene film, foam products, skin packaging and the Food & Drug Act and its effect on packaging materials.

Keith H. Williams, Mid-States Gummed Paper Div. of Minnesota Mining & Mfg. Co., was re-elected chairman of the **Gummed Industries Assn.'s** technical section at its recent fourth annual seminar in New York. **Dean Tharp,** Paper Mfrs. Co., was elected vice chairman of the technical section.

The 1961 National Packaging and Handling Competition, sponsored by the **Society of Packaging and Handling Engineers,** will be held Nov. 13-14 in conjuction with the seventh annual Eastern Packaging and Handling Show. To be held at the Fifth Regt. Armory Hall in Baltimore, the event will provide a means of comparative evaluation of the work of packaging and handling engineers. **J. L. Krager, Jr.** is chairman of SPHE's national competition.

The **Pulp & Paper Prepackaging Assn.** has elected **Robert W. Bertram,** Marathon Div., American Can Co., as its new pres. Mr. Bertram was one of the founders of the association. Also elected were: **Murray G. Crawford,** Pack-R-Board Corp., v.p.; **William M. Howard,** Forster Mfg., secy.-treas.; and **Arlo Wilson,** exec. secy. Elected to the board of directors, along with Mr. Bertram and Mr. Crawford, were **H. D. Archibald,** Keyes Fibre Co.; **E. B. Howard,** Diamond National, and **Harlan Longnecker,** KVP Sutherland.

A new technical report on case-sealing adhesives, with data on adhesive tapes, physical properties, common case-seal-

[*Continued on page 212*]

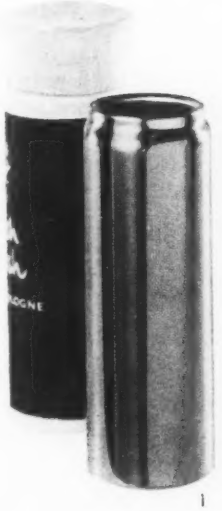
Is your product dressed for sales?

As you know, in today's market, your product must be smartly dressed and up-to-the-minute, for maximum sales appeal at the point-of-purchase.

Peerasol* is the distinctive, seamless, aluminum aerosol container that is being chosen by drug, cosmetic, pharmaceutical and specialty product manufacturers to meet a growing consumer demand for smaller pocket and purse size aerosols. It is the only aluminum aerosol container with a patented neck for a leak proof valve-cup fit. This feature, combined with the extruded one-piece construction, makes a container you can market with confidence. Peerasol containers can be handsomely lithographed in two, three, or four colors over a base coat, and come in capacities ranging from one-half to four ounces.

Peerasol is another development of the Peerless Tube Company, a pioneer in the manufacture of collapsible metal tubes as a package for commercial use.

For complete information about Peerasol containers, write or call—



PEERLESS TUBE COMPANY, Bloomfield, N. J.

** Peerasol is a tradename of the Peerless Tube Company.*

The LOWEST PRICED Shipping Room Electric ON THE MARKET!

THE REVOLUTIONARY

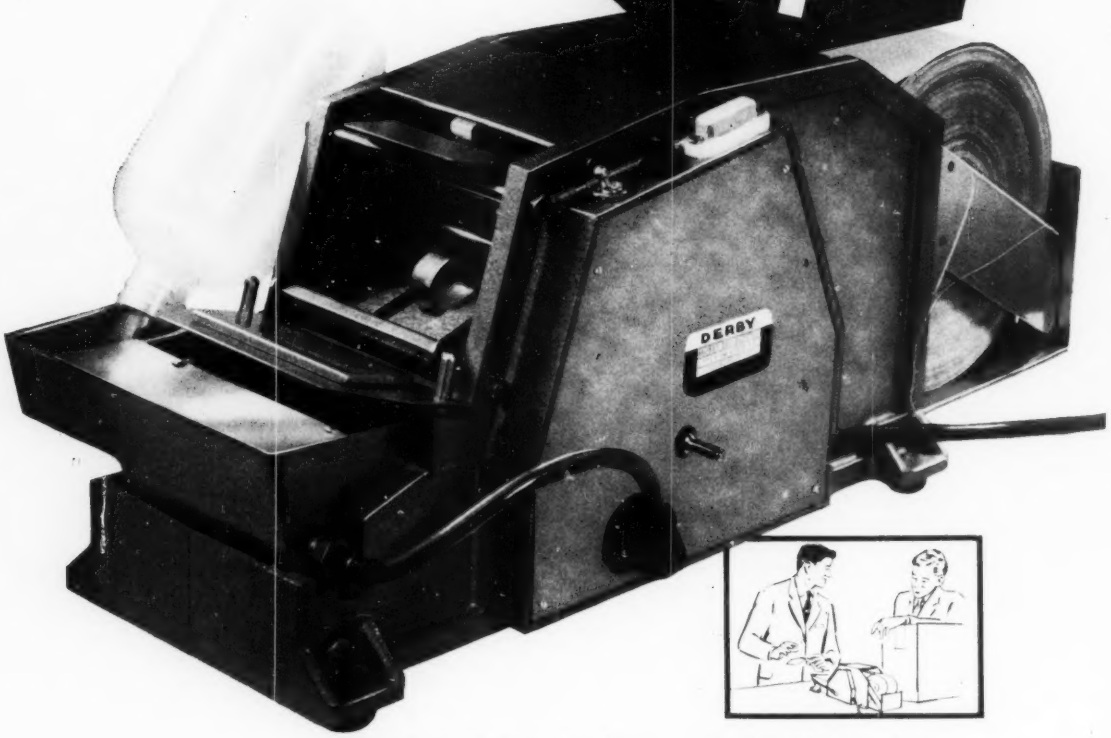
"310"

DERBY ELECTRIC

GUMMED TAPE DISPENSER

TAPE AT A TOUCH!

$144.00



The new Derby "310" electric dispenser was designed for general shipping room operations requiring a constantly changing variety of lengths of tape. Dispenses both reinforced and Kraft tapes in widths up to three inches. There are no dials to set, no adjustments to make. A touch delivers any length instantly! Its very simplicity and ease of operation makes operator-fatigue a thing of the past! The Derby "310" is priced lower than any other electric on the market, yet has all the quality features and dependable performance that are built into all Derby dispensers. Prove it in your own shipping room without obligation!

YOU CAN'T BEAT THE DERBY "310" FOR ECONOMY AND SIMPLICITY

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FOR FREE DEMONSTRATION

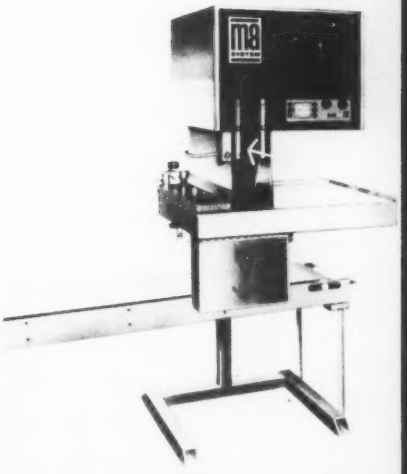
DERBY SEALERS DIVISION
MINNESOTA MINING AND MANUFACTURING COMPANY
DERBY, CONNECTICUT

3M COMPANY
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

A NEW LOW-COST AUTOMATED POLYETHYLENE PACKAGING SYSTEM

FUNCTION: Completely packages products in polyethylene film—in one operation—in your plant. Produces inexpensive, loose or shrink-fit polyethylene packages around regular, odd-shaped or out-sized products of all types. **ADVANTAGES:** Uses polyethylene roll stock. Saves up to 50% in material costs over ready-made bags and other packaging methods and materials. ■ Boosts in-plant packaging efficiency, produces up to 30 packages per minute at reduced labor costs. ■ Provides a self-selling plain or printed package that protects, displays and glamourizes. **COST:** Complete MA Systems normally range from $2000 to $4000. **A CASE IN POINT:** Jantzen, Inc., through its manufacturing affiliate, The Jay Company, employs two MA Systems to package its line of sportswear in clear, printed polyethylene packages. **RESULT:** "A merchandising feature which enables the garment to virtually sell itself," according to Jay N. Lipsey, Manager of The Jay Company. "What's more, we have substantially reduced damages caused by handling." **FREE OFFER:** Let the MA System test-package your product in durable, transparent polyethylene. Send us a sample, or write for complete details on this revolutionary packaging system to either Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio — or — Kordite Company, Macedon, New York.

ma SYSTEM



for packaging . . .

MINI-JECTOR

Reg. U. S. Pat. Off

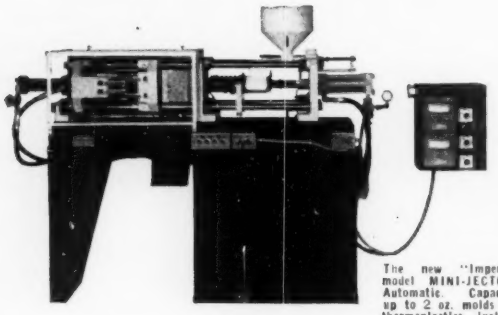
PLASTIC INJECTION MOLDING MACHINE

"Very successful low-cost production of Nalgene test tube closures,"
reports Nalge Co., Inc., Rochester, N. Y.

"We are using our MINI-JECTOR to make closures for Nalgene test tubes. These are friction-fit closures, made of polypropylene, in a triple cavity mold. Of course other similar items could be tooled. Almost any material can be run in the MINI-JECTOR—conventional polyethylene linear polyethylene, nylon, etc."—Nalge Co., Inc.

So says one satisfied MINI-JECTOR user in the packaging field.

MINI-JECTORS IDEAL FOR PACKAGING ITEMS



The new "Imperial model MINI-JECTOR Automatic. Capacity up to 2 oz. molds all thermoplastics, including nylon.

An unlimited variety of plastic parts can be molded successfully with versatile MINI-JECTOR plastic injection molding machines. Four basic types of MINI-JECTORS are available. Capacities range from sub-miniature to 2 oz. Models start from under $1,000. to $6,380.

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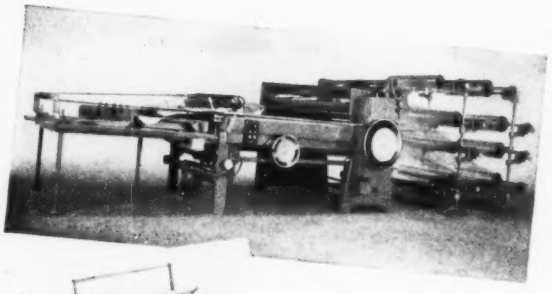

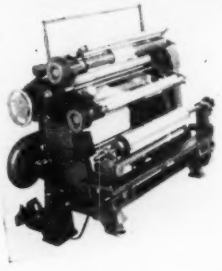

▲ Beck Roll Sheet Cutter cuts, counts and stacks sheets from rolls

◀ Beck Razor Blade Slitter slits large rolls into small rolls or strips

For cutting paper, board, film, acetate, etc. For slitting all the newer materials including polypropylene, mylar, teflon, etc.

No bulky, space-eating machinery! These compact, high volume units are engineered for easy, economical operation, more productive use of floor area . . . and continuous, trouble-free cutting. Write for full details.

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Manufacturers' Literature

Described below . . . the latest literature, catalogs and brochures from the packaging industry. Dollar saving and dollar making ideas and data . . . available without charge.

EQUIPMENT • SUPPLIES • SERVICES

BALING PRESSES. Illustrated brochure presents features of line of high-speed baling presses. Over 50 models for efficient baling of plastics, paper, light-gauge metals, etc., in bale weights ranging from 50 to over 1,500 lbs. Consolidated Baling Machine Co. (150-F)

COLOR MEASUREMENT. Illustrated brochures describe new technique of high-speed, fully-automatic color measurement that provides precise color signatures at rates as high as 30 samples per second. Eliminates human error; lowers unit costs by increasing production. Description, advantages, applications, other data. Allied Research Associates, Inc. (151-F)

PRICE MARKING. Illustrated bulletin describes portable price marking machine capable of imprinting as many as 150 pressure-sensitive labels per minute. Includes an automatic counter so that precise quantities of labels can be imprinted without waste. Complete description, applications, accessories, other data. Avery Label Co. (152-F)

PAILS & DRUMS. 6-page illustrated brochure describes line of steel pails and drums; also fibre drums. Complete description, advantages, applications, other data. Bennett Industries, Inc. (153-F)

TAPE MACHINES. 4-page illustrated reprint describes touch-button tape machines that are faster, sturdier, more precise and easier to operate than non-electric manual models. Complete description, advantages, applications, case histories. Better Packages, Inc. (154-F)

RIGID PLASTIC BOXES. 20-page illustrated catalog describes complete line of rigid plastic boxes—including hinged boxes, square and rectangular boxes, round boxes and vials, miscellaneous boxes. Dimensions, prices, other data. Bradley Industries. (155-F)

LABORATORY APPARATUS. Illustrated catalog describes complete line of plastic bottles and closures, custom designed for laboratory use. Includes narrow-mouthed bottles, square bottles, beakers, cylinders, graduates, etc. Complete descriptions, prices, dimensions, other data. Beilder's Sheet Metal Works, Inc. (156-F)

PLASTIC VIALS, JARS. 4-page illustrated folder describes complete line of rigid polystyrene molded vials. Also squat jars, flexible vials and extrusions. Complete descriptions, dimensions, applications, other data. Celluplastics, Inc., a Sub. of Brockway Glass Co., Inc. (157-F)

POWER PAPER CUTTERS. Illustrated bulletin describes two new 30-¾ in. power paper cutters, offering faster, more automatic cutting for printers and duplicator operations. Complete descriptions, specifications, other data. The Challenge Machinery Co. (158-F)

VACUUM FORMING. 10-page illustrated booklet describes activities of leading custom molder. Vacuum forming, pressure forming, blow molding facilities offered. Also model and mold making, complete die-cutting facilities, full assembly department, etc. Chanal Plastics Corp. (159-F)

FLEXOGRAPHIC INKS. Spiral-bound sample book—complete with specifications—describes complete line of flexographic inks, including dysol inks, cellaflex inks, filmflex inks, etc. Coates Brothers Ink Ltd. (160-F)

SPRAY PAINTING MASKS. 4-page illustrated folder describes electro-formed metal spray painting masks for multiple color decoration and protective coatings. Covers lip-type masks, plug-type masks, plane surface masks. Complete description, other data. Conforming Matrix Corp. (161-F)

POLYETHYLENE TANKS. Illustrated folder describes complete line of one-piece molded polyethylene tanks for storage, plating, compounding, pickling, mixing and many other uses. Complete description, applications, accessories. Delaware Barrel & Drum Co. (162-F)

MULTI-GRAVURE PRESS. 4-page illustrated folder describes 3-roll, multi-gravure press that prints by direct gravure, offset gravure, or flexography with no major changes in structural design or variations in web path. Complete description, features, advantages, other data. Frank W. Egan & Co. (163-F)

COLOR COATINGS. Sample booklet offers 15 decorative, protective and decorative-protective coatings, currently available on complete line of foil containers. Complete description of each color and its particular properties. Ekco-Alcoa Containers Inc. (164-F)

PRODUCT CONTROL BOXES. 4-page illustrated folder describes co-polymer PC product control boxes for plant quality production and storage use. Boxes reduce noise, resist dust and dirt, fire, chemicals, oils, and many solvents, etc. Available with or without dividers, layer separators, label pads, and holders. Export Corp. (165-F)

RIBBON BLENDERS. 4-page illustrated folder describes complete line of ribbon blenders for fast, efficient mixing of powders, granulars, pastes or liquids. Description, complete specifications, dimensions, capacities, other data. First Machinery Corp., Falcon Mfg. Div. (166-F)

CONVEYOR CONTROLS. 6-page illustrated folder describes magnetic conveyor controls for package, part or container conveyor systems. Maximum conveyor line efficiency, integrated, centralized control; dependable, safe service. Flo-Tronics, Inc. (167-F)

ROTARY LETTERPRESS. Illustrated bulletin describes single color letterpress that can produce an unmottled lay of metallic ink. Can print metallic ink at production speeds of 5500 sheets per hour and black ink at speeds of 6500 sheets per hour. Complete specifications, standard equipment available, optional equipment available. Harris Seybold Co. (168-F)

BAG-MAKING MACHINES. Illustrated brochure describes bag-making machines, available in three sizes, that can convert sulphite, kraft, glassine, parchment, aluminum foil, waxed papers, thin tissue and other difficult stocks. Advantages, optional equipment available, etc. Heinrich Equipment Corp. (169-F)

STEEL DRUMS, PAILS. Spiral-bound, 46-page illustrated catalog describes complete line of steel drums and pails, including light shipping drums, grease drums and lubesters, steel pails, necked-in pails, double bead pails, putty pails, shipping pails, etc. Jones & Laughlin Steel Corp., Container Div. (170-F)

ELECTRONIC HEAT SEALERS. 12-page illustrated booklet describes line of electronic heat sealers that can successfully seal acetate, flexible and rigid vinyl, saran, polypropylene, etc., in tubes, rounds, ovals, oblongs, triangles, squares, in practically any size. Kabar Mfg. Corp. (171-F)

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EQUIPMENT • SUPPLIES • SERVICES

EXPANDABLE POLYSTYRENE. 30-page illustrated book describes expandable polystyrene—a plastic material that can be expanded to a rigid foam of any desired shape in a single operation. Covers applications, product properties, product processing techniques. Koppers Co., Inc., Plastics Div. (172-F)

LIQUID FILLER. Illustrated bulletin describes high-speed liquid filler that features quick changeover of all product contact parts, as well as all containers from 2-oz. bottles to 2-gal. cans. Laub Engineering Co. (173-F)

PACKAGING MATERIALS. Illustrated bulletin describes high-density polyurethane foam for packaging and cushioning applications. Provides high shock absorption with minimum thickness and cushioning area. Description. Leewood Corp. (174-F)

CUSTOM DESIGNED MACHINERY. Illustrated bulletin describes leading manufacturer of custom designed machinery. Special types of machinery include peach cartoning machines; plastics packaging machines; filling, capping and heat sealing equipment. Lee Associates. (175-F)

PRECISION SWITCHES. 20-page illustrated catalog lists complete line of over 200 items, including miniature switches, special purpose switches, electronic switch-circuit assemblies, lighted push-button switches, toggle switches, limit switches, etc. Minneapolis - Honeywell Regulator Co., Micro Switch Div. (176-F)

BLOW MOLDING. 4-page illustrated brochure describes twin-station blow molding equipment for molding an unlimited variety of hollow items from low density polyethylene, high density polyethylene, polypropylene, high impact styrene, acetate, nylon and other materials. Accommodates molds up to 36 in. long, 21 in. wide, 28 in. daylight. Modern Plastic Machinery Corp. (177-F)

MULTI-PROCESS PRESSES. 8-page illustrated book describes flat-bed web press that prints from ordinary type, machine composition, engravings or electrotypes. Also for printing from rubber or plastic plates. Every necessary printing and finishing operation handled at one time on one press by one pressman. New Era Mfg. Co. (178-F)

WEB OFFSET. 32-page illustrated pocket-size booklet discusses in simple, non-technical language how web offset perfecting presses work, their advantages and disadvantages, and their place in the industry. The Miehle Co., Div. of Miehle-Goss-Dexter, Inc. (179-F)

ELECTRIC EYES. 22-page illustrated booklet covers all phases of electric eye applications in automation. General roundup story of the history and development of electric eyes. Included is a wide range of illustrations and schematics showing diversified photo-electric systems. Photomation, Inc. (180-F)

CLIP-CLOSURES. 4-page illustrated booklet describes versatile clip-closure system for drum liners, multi-wall bags, plastic and heavy paper wraps. Products of New Jersey, Inc. (181-F)

RECIRCULATION OVENS. 4-page illustrated folder describes twin recirculation ovens that heat evenly from all sides when fully loaded. No heat pockets, no stagnant spots, minimum temperature differential, much shorter heating-up, etc. Complete description, features. Randall Mfg. Co., Inc., Ramco Equipment Corp. Div. (182-F)

A-C MOTORS. 16-page illustrated booklet describes complete line of A-C motors from 1 to 2,000 HP. Features of each motor are clearly outlined and explained for easy selection of right motor for every application. Reliance Electric & Engineering Co. (183-F)

CONVEYORS. 4-page illustrated brochure contains 19 pictures and story captions about recent conveyor installations. Covers a broad range of package conveyor solutions to problems of lowering handling costs. Standard Conveyor Co. (184-F)

LAMINATING, SHEETING. 4-page illustrated folder describes leading company that offers laminating, sheeting, die-cutting, embossing and packaging facilities for famous-brand manufacturers. Stirling Converting Co., Inc. (185-F)

BAG SETTLER. 4-page illustrated folder describes bag settler that combines effective settling with accurate weighing. Reductions in bag sizes ranging from 5 to 20% are possible through the effective settling of many materials. H. L. Stoker Co. (186-F)

BULK HANDLING. 4-page illustrated brochure describes bulk handling system that offers the efficiency and all-round savings of automation, the flexibility and versatility of unit containers, and the product protection of sealed containers. Tote System, Inc., Sub. of Hoover Ball and Bearing Co. (187-F)

INDUSTRIAL SOLVENTS. 4-page technical bulletin describes special industrial solvents that can be used to clean rubber rolls, plates and type used by flexographic printing industry, as well as for the formulation of printing inks. Rubber printing rolls are not softened because no hydrocarbon denaturants are used. U. S. Industrial Chemicals Co. (188-F)

POLYSTYRENE. 8-page illustrated booklet describes expandable and expanded polystyrene. Applicability of regular and self-extinguishing polystyrene to the construction, refrigeration, air-conditioning, flotation and packaging fields is illustrated. United Cork Cos. (189-F)

SOLVENT SAFETY GUIDE. 8-page guide outlines a complete safety program for the printing industry. Features a comparison chart giving flash points, solvent powers, and inhalation tolerances for several commonly-used printing solvents. Varn Products Co., Inc. (190-F)

CODE INSPECTOR. Illustrated book describes device for electronically inspecting line codes on printed material. Verifies identity, checks for presence of colors and registration also. Wilkata Codes, Inc. (191-F)

CODER. Illustrated technical bulletin describes coder for imprinting sides, top or bottom of product, with no additional parts necessary. Features compact construction, simplified installation. Completely friction driven, easy to disassemble. Bell-Mark Corp. (192-F)

WRAPPING MACHINES. 4-page illustrated brochure describes machinery that forms a bag; holds bag open for loading; closes bag; seals, forms and delivers. Only one operator required. Cycling speed: 30 per minute. Stephen Bodolay Inc. (193-F)

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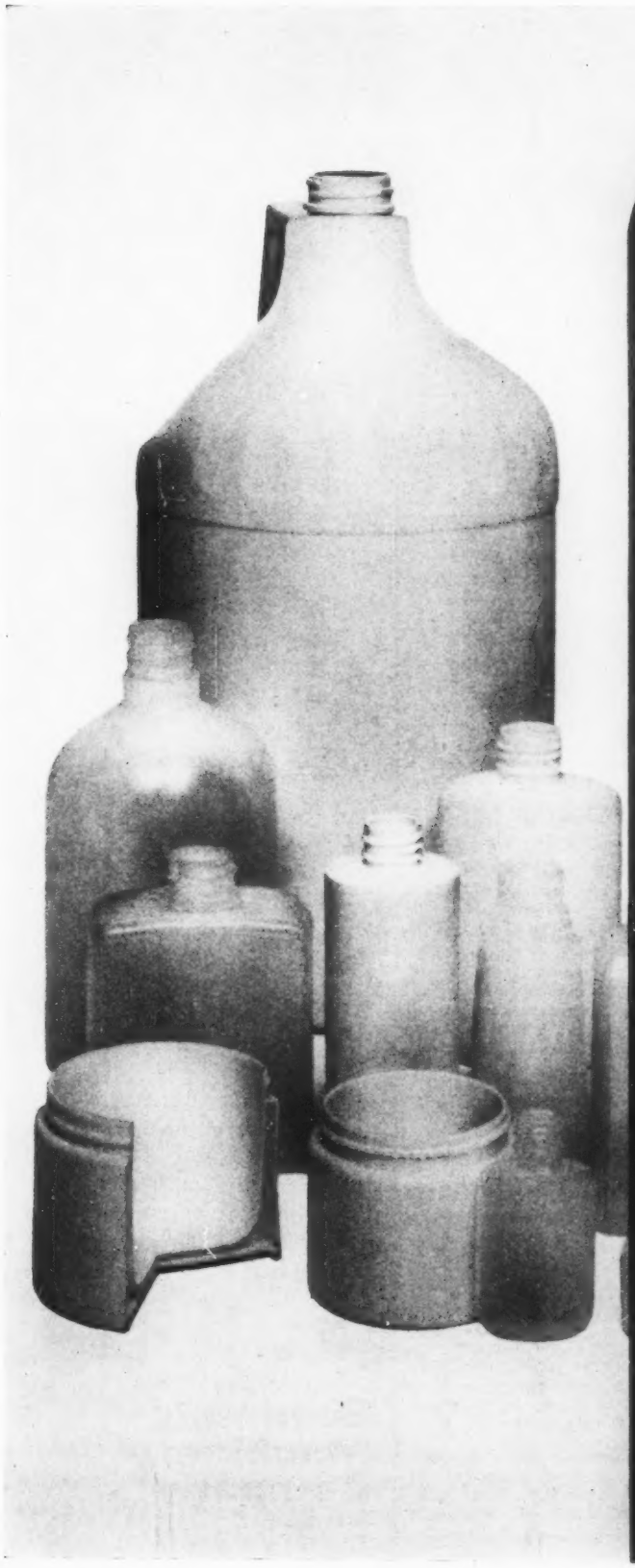

4 REASONS WHY IMCO CONTAINS THE BEST!!!

Engineering Specialists. Design and product engineers at IMCO focus all their attention toward one end result . . . to develop your vision into a selling reality. Their know-how in the entire field of polyethylene container production enables them to produce almost anything your designers can conceive . . . quickly and economically.

Nationwide Service. IMCO's widespread manufacturing locations—from New York to California, from Canada to the Deep South, insure the fastest delivery possible. There is never any long, costly delay because your order must "stand in line" waiting to get into production. Big freight savings, too.

"Front-Runner" Stock Items. IMCO's task-force of R & D engineers prides itself on anticipating customer's needs. Containers as new as tomorrow are as close as your telephone . . . the IMCO-perfected double wall jar; tapered mitens, oblongs, ovals, cylinders, rounds, squares and gallon and half-gallon jugs are just a few of these stock containers.

Decorating Facilities to Solve Any Problem. Whatever method of decorating is most ideally suited to your particular problem, IMCO is equipped to handle it. Hot Stamping, Silk Screening, Offset or Thermoset . . . IMCO decorates the best.

Surely this is the time to give your product the advantages of IMCO's knowledge and experience in the production of polyethylene containers. We can assist you in running tests of your products in IMCO containers, and we will be happy to quote prices on stock or custom-made bottles, jugs and jars. Call the sales office or plant nearest you or write direct to our Sales Manager in Kansas City. We'll have an IMCO Representative contact you within 24 hours.

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Your best advertising space can be on the product itself. When you use an inferior or poorly designed tag or label, you are actually under-advertising your product.

Today, competition is high, most products are good . . . and the item with the most attractive, informative tag or label is the one that **sells.**

With National Tag Company's custom design service, you get

- Free design consultation on tags or pressure sensitive labels. Send us your requirements or a sample of your old tags.
- Competent, highly-skilled artists and designers . . .

AND REMEMBER

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PROMPT, PERSONAL SERVICE

QUALITY SERVICE SINCE 1895

F.Y.I. [*Continued from page 204*]

ing problems and application information, is being offered by the Adhesives & Chemicals Div. of **The Borden Chemical Co.** The report, No. G3-101, covers both dextrine and resinous emulsion type glues. Also included are tables showing the influence of dilution on viscosity characteristics, and technical data such as solids, pH, color, weight per gal., storage life, speed of set and methods of application. The report is obtainable without cost from The Borden Chemical Co., 350 Madison Ave., New York 17.

The National Paper Trade Assn. held its 58th annual convention Mar. 26-29 at the Waldorf-Astoria Hotel in New York. The theme of the convention was "Profit with Paper."

The **American Rack Merchandisers Institute** held its mid-year convention and supermarket non-food workshop in San Francisco May 14-19. The group's 53 service distributors and more than 500 manufacturer members participated in a merchandise and operations program designed to answer the question of how to raise supermarket net profits.

The **Pressure Sensitive Tape Council** has announced a program to make available testing equipment for pressure-sensitive tapes. Reported to meet the requirements of the PSTC as well as the American Society for Testing Materials and Federal specifications, the equipment is available from the council at Glenview, Ill. Prices are obtainable on request.

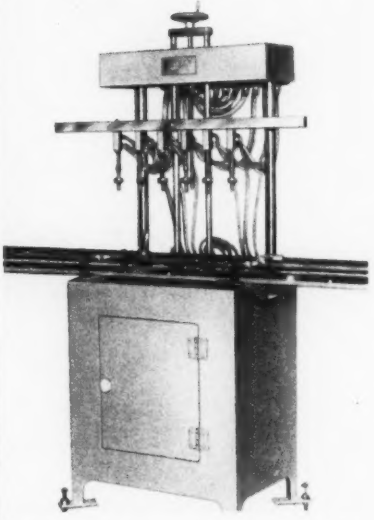
A revised edition of **Corning Glass Works'** 68-page booklet, "This Is Glass," is now available. The booklet is illustrated with photographs and drawings. It tells the history of glass, describes the types of glass now manufactured and previews the future of the material. Copies are available without charge on request to Corning Glass Works, Corning, N. Y.

Dr. Frank C. Campins, pres., and **Robert C. Mavis,** mgr. for paper adhesives engineering of Polymer Industries, Inc., Springdale, Conn., spoke at a special seminar sponsored by the **University of Louisville** and the **Purchasing Agents Assn. of Louisville** at the university on April 12 and 13. Dr. Campins and Mr. Mavis discussed "New Approaches to Adhesive Performance." Highlights of the discussion concerned pressure sensitivity, dry bonding, cross uniting and reagent adhesion.

F. C. Hayes, pres. of Container Statistics, Ltd., was elected pres. of the **Packaging Assn. of Canada** at its annual meeting in Toronto on Mar. 7.

Robert W. Hannah, Albemarle Paper Mfg. Co., was elected pres. of the **Waterproof Paper Mfrs. Assn.** at its recent annual meeting in New York. **John M. LeBolt,** Cromwell Paper Co., was elected v.p.

Perfect for medium speed filling of plastic containers and "F" style cans



Packer Gravity Liquid Filler Model PG-1

Fills: thin, viscous, foamy liquids, hot and cold
metal, glass, plastic containers, various shapes, ounces to gallons

Straight line, automatic or semi-automatic

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Interchangeable nozzles — 4, 6, 8, 10 or 12 spouts

12 models—manufactured by Packer Machinery Corp.

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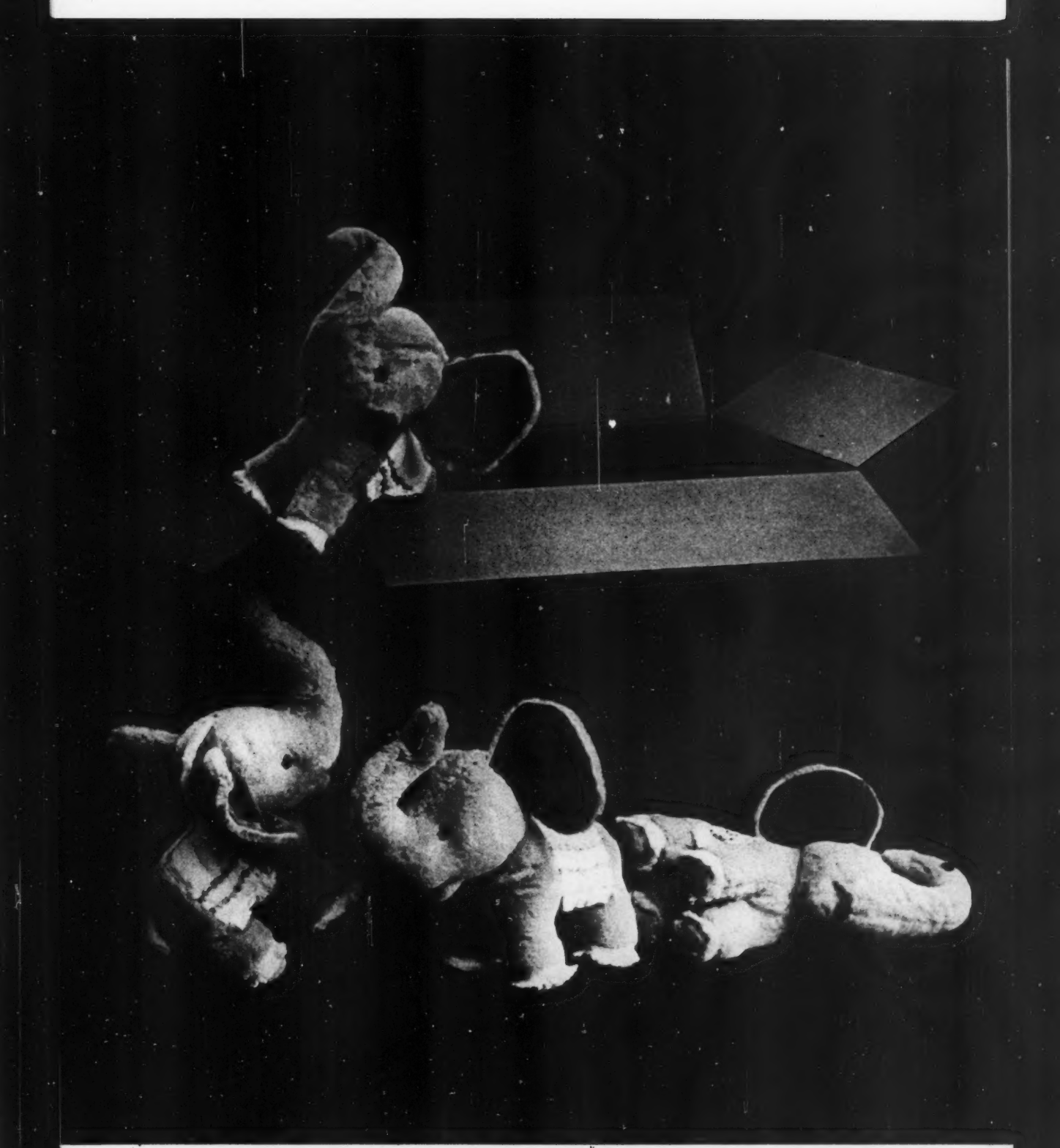
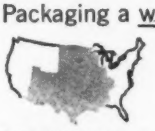


STRONG ENOUGH TO HOLD A HERD OF MILD ELEPHANTS

Toy elephants, to be sure. But Hoerner corrugated specialists have solved many weighty packaging problems. They have packaged juke boxes, motors, appliances, boats, playground equipment, and many other heavy items that need strong packages.

Packaging a wild elephant wouldn't even faze them.



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U.S. PATENTS DIGEST

This digest includes each month a brief summary of the more important current patents which are of special interest to all packagers.* Edited by H. A. Levey.

Method and Apparatus for Packaging Fibrous Materials, William H. Mosler (to Owens-Corning Fiberglas Corp., Toledo, O., a corporation of Delaware). U.S. 2,973,607, March 7. A method of packaging materials including the steps of conveying a continuous mat of mineral fibers in a rectilinear direction.

High-Speed System for Feeding and Sealing Cartons, John F. Killion (to Food Machinery and Chemical Corp., San Jose, Calif., a corporation of Delaware). U.S. 2,973,608, March 7. A method of sealing cartons of the type having end flaps and ears comprising the steps of moving cartons along a predetermined path with the end flaps and ears thereof extended in a horizontal position.

Radial Machine for Aseptic Canning and the Like, Harry A. Morgan, Jr. (to Reddi-Wip, Inc., Los Angeles, Calif., a corporation of Missouri). U.S. 2,973,609, March 7. A multiple unit machine for processing articles in a times sequence, comprising a base, a central support column having an upper portion and a lower portion, fixed means extending radially from the upper portion and supporting a plurality of article-processing units in a stationary circle.

Packaging Machine, Harry E. Engleson and Elmer D. Sramek (to F. B. Redington Co., Bellwood, Ill., a corporation of Delaware). U.S. 2,973,611, March 7. In a packaging machine, apparatus for transferring an elongated article from a first continuously driven conveyer means into a carton held on a second intermittently driven conveyer means.

Method of and Apparatus for Producing Thumb-Notched Bag Lengths, each Notch being Confined to One Wall of Each Bag Length, Bernard Lerner (to Custom-Made Bag Co., Inc., Long Island City, N. Y., a corporation of New York). U.S. 2,973,697, March 7. The method of successively producing thumb-notched bag lengths from thin, thermoplastic tubing, each notch being confined to one wall of each bag length, the other wall being left intact.

Apparatus for Producing Reclosure Container Covers, Victor T. Grover (to American Can Co., New York, N.Y., a corporation of New Jersey). U.S. 2,973,735, March 7. An apparatus for forming a locking projection in the side wall of a reclosure container cover and for simultaneously curling a flange on the container cover.

Apparatus for Maintaining the Orientation of Stacked Bags, John D. Sylvester (to Amsco Packaging Machinery, Inc., Long Island City, N.Y., a corporation of New York). U.S. 2,973,797, March 7. Apparatus for temporarily joining a multiplicity of heat-sealable bags arranged in a stack, said bags each having a pair of opposed side walls one of which is longer than the other to form an extension which projects past the bag mouth.

Container for Wire, Tubing, Cordage, and the Like, Arthur L. Laneve, Harold E. Nash and Richard L. Tress (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,973,858, March 7. A one piece container for packaging a cylindrical article having a substantially greater diameter than height and a central void therein comprising rectangular, substantially counterpart top and bottom wall panels spaced in parallel relation.

Liner Type Box Wrap Package, Raymond Walter Carlin and James Clair McKinney (to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio). U.S. 2,973,893, March 7. A box wrap for packaging articles of irregular shape comprising an inner liner blank cut and scored to form two side panels with a first end panel interposed and having a second end panel at one end and a locking tab at the other end panel.

Ball Applicator Attachment for Bottles, Alex Kundert (to Floriham S.A., Monte Carlo, Monaco, a corporation of Monaco). U.S. 2,974,351, March 14. A dispenser for a container having an externally threaded neck portion and comprising, in combination, a hollow cap member having internal threads at one end thereof, adapted to engage the threads of the neck portion and having at its other free end a passage terminating in a constricted outlet portion.

Method for Forming and Filling Packages, Clarence W. Vogt, Westport, Conn. U.S. 2,974,452, March 14. The method of packaging form retaining still moldable material which comprises exerting gas pressure against a charge of such material to fill a trough-like base member so that the material being packaged protrudes outwardly from the mouth of the trough.

Method of Pressure Filling Aerosol Containers, Philip Meshberg, Fairfield, Conn. U.S. 2,974,453, March 14. The method of pressure filling an aerosol container having a metering valve means embodying a two-part stem and a measuring housing having a seal cooperating with a valving portion adjacent to the inner end of a first part of said stem to form a normally open inner valve means for controlling the passage of the aerosol from the container to the housing.

Can Packaging Apparatus and Method, Noble André, San Francisco, Wolfgang B. Fahrenbach, Oakland, and John J. Tyll, San Francisco, Calif. (to André-Matic Machinery Co.). U.S. 2,974,454, March 14. The method of packaging a group of cylindrical cans disposed upright in side by side relation in a pair of parallel rows of equal length comprising the steps of: moving said rows longitudinally thereof in one direction with said cans in upright condition, associating and moving with said rows an elongated strip-like carton blank.

Applying Caps to Bottles, Jacob Ravn (to The West Company, Phoenixville, Pa., a corporation of Pennsylvania). U.S. 2,974,455, March 14. The method of applying cylindrical caps to bottles having an outstanding finish about the upper portion of its neck, comprising the steps of positioning a cap on the bottle with its cylindrical wall surrounding and depending below said finish, rolling said cap and bottle along a sealing rail projecting under said finish to form a flange underlying said finish.

Wrapping Apparatus and Method, Louis R. Muskat, King. L. Klopfenstein and John E. Kleboe (to Triangle Package Machinery Co., Chicago, Ill., a corporation of Illinois). U.S. 2,974,458, March 14. Apparatus for wrapping an article in a rectangular wrapping sheet, said apparatus comprising in combination: carriage-supporting structure, means for supporting an article to be wrapped in a generally horizontal plane spaced above said structure.

Lip Capping Device, Alfred William Kinney (to American Can Co., New York, N.Y., a corporation of New Jersey). U.S. 2,974,459, March 14. A capping device for securing a lid to a paper container having a peripheral bead surrounding its open end by crimping the marginal edge of said lid around said bead.

Carton Packaging Machine for Sheets, Ray C. Demler (to International Packaging Corp., Tacoma, Wash., a corporation of Washington). U.S. 2,974,461, March 14. In a carton-packaging machine, deenergizable conveying means for conveying a package including spaced parallel carton members having cooperating edge flaps folded into overlapping relationship with thermosetting adhesive therebetween.

Low-Temperature Fluid Container, Alexis Pastubov and George Y. Robinson, Jr. (to Conch International Methane Ltd., Nassau, Bahamas, a corporation of the Bahamas). U.S. 2,974,496, March 14. In a tank structure for housing a low-boiling liquefied gas which sometimes partially fills the tank comprising a housing of metal walls which are subject to expansions and contractions in response to temperature change in the walls thereof.

Carton Forming and Lining Machine, Robert F. Windstrup, Joseph Boehler, and Walter Schneider (to Peters Machinery Co., Chicago, Ill., a corporation of Illinois). U.S. 2,974,571, March 14. An automatic carton forming and lining machine, comprising feeder means operative to deliver a carton blank to a predetermined rest position.

Apparatus for Applying Wax to Cartons, Harry G. Thompson, Grand Rapids, Mich. U.S. 2,974,631, March 14. In an apparatus for applying wax to articles, which has a continuous conveyor characterized by a plurality of articu-

For more detailed information, copies of patents are available from the U. S. Patent Office, Washington 25, D.C., at 25 cents each, payable in currency, money order or certified check. Postage stamps are not acceptable.

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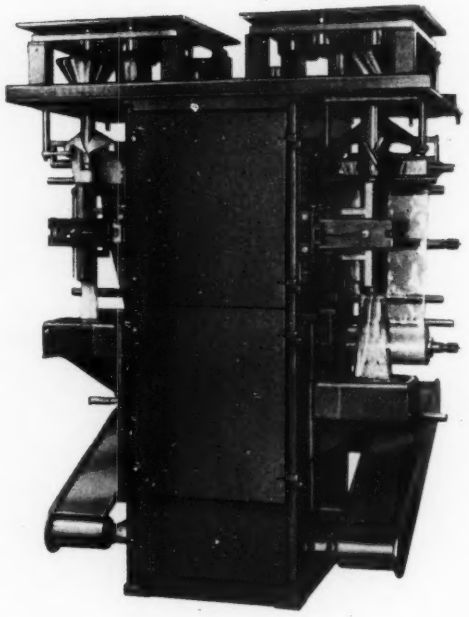

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Patents [*Continued*]

lated flat links arranged in a pair of spaced parallel planes, said apparatus comprising article depositing means for depositing articles to be waxed on said continuous conveyor.

Corrugated Packaging Material, Charles Albert Fourness (to Kimberly-Clark Corp., Neenah, Wis., a corporation of Delaware). U.S. 2,974,716, March 14. An apparatus for making corrugated laminated paper comprising at least one pair of rolls for gathering a first ply of said paper, each of said pair of gathering rolls having one roll provided with a plurality of spaced annular flanges.

Punched Can, Etsuo Mansho, Box 746, Ewa, Hawaii. U.S. 2,974,824, March 14. A beverage can comprising, in combination, an elongated walled receptacle having end walls at each extremity, at least one of said end walls having outlet means for emptying the contents from the interior thereof.

Packaging Apparatus, Donald W. Garnett (to The Olofsson Co., Lansing, Mich., a corporation of Michigan). U.S. 2,975,568, March 21. Apparatus for filling bags and like containers comprising a conveyor having vacuum controlled means to grip and open a container while advancing the said container along the conveyor.

Apparatus for Wrapping and Heat-Sealing Packages, Milton A. Wertheimer (to Gellman Mfg. Co., Rock Island, Ill., a corporation of Illinois). U.S. 2,975,572, March 21. An apparatus for finishing the wrapping and sealing of a partially wrapped package in a pre-cut sheet of wrapping material comprising a horizontally extending track, means for continuously moving said partially wrapped package over said track, means for partially folding the wrapper about certain sides of package as it is moved over said track by said moving means.

Apparatus for Securing and Sealing a Closure Cap to a Receptacle, John R. Nalbach, Lawrence G. Weston and Ralph L. Mucci (to John R. Nalbach Engineering Co., Chicago, Ill., a corporation of Illinois). U.S. 2,975,575, March 21. An apparatus for securing a closure cap of the type having a cup-shaped portion and an annular, curved flange extending radially from the upper end of the vertical cylindrical wall of the cup-shaped portion to a wall of a receptacle body having an opening therein defined by an annular bead.

Locking Construction for Paperboard Cartons, Orison W. Stone (to Continental Can Co., Inc., New York, N.Y., a corporation of New York). U.S. 2,975,891, March 21. A carton package comprising a paperboard carton wrapped around goods contained in cylindrical containers such as metal cans having chines, said containers arranged in parallel rows within the carton, said carton having overlapping flaps.

Container for Packaging Yarn Cones, James P. H. Leavitt (to Container Corp. of America, Chicago, Ill., a corporation of Delaware). U.S. 2,975,892, March 21. A yarn cone package comprising a plurality of superposed layers of spaced yarn cones, each of such cones being of hollow, frusto-conical form, a plurality of trays interposed between adjacent layers of cones, each tray comprising a base sheet and a top sheet of paperboard.

Dispensing Container for Powdered Materials, Curtis P. Lindley (to Centennial Mills, Inc., Portland, Oreg., a corporation of Washington). U.S. 2,975,915, March 21. A transportable bulk container for powdered materials, comprising: a tank of cylindrical form normally employed in a substantially horizontal position; a filling opening in the upper portion of said tank, and means to close said filling opening.

Ventilated Shipping Container for Fruits and Vegetables, Mark B. Royce (to Continental Can Co., Inc., New York, N.Y., a corporation of New York). U.S. 2,975,926, March 21. A ventilated package for perishable articles which substantially fill a shipping container, said container comprising a rectangular fibreboard unit having four side panels, each side panel having a marginal flap at each end which is substantially coextensive with its related side panel wherein the adjacent corners of said flaps overlap when folded into a substantially planar position.

Method and Apparatus for Filling Gusseted Containers, Clarence W. Vogt, Weston, Conn. U.S. 2,976,654, March 28. A method of filling open-ended tubular containers having top and bottom panels extending lengthwise of said container, comprising inserting said container in collapsed condition in a mold cavity with the ends of the container extending out of said cavity.

Packaging Method and Apparatus, Robert L. Dreyfus and John W. Harrison (to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut). U.S. 2,976,655, March 28. A method of forming a cover having an elastic edge comprising positioning a film of a high shrink energy polymer over and beyond the lip of a container.

Container Filling and Closing Machine, Thomas E. Piazze (to Continental Can Co., Inc., New York, N.Y., a corporation of New York). U.S. 2,976,660, March 28. In a bag closing and sealing machine having a continuously traveling endless horizontal conveyor on which the bags are carried in spaced relation in an upright position and means for flat folding the tops of filled bags, mechanism for cross sealing the flattened tops of the filled bags comprising a vertically adjustable frame extending along said conveyor.

Easy Opening Can and Cover Assembly, John Henchert (to Continental Can Co., Inc., New York, N.Y., a corporation of New York). U.S. 2,977,019, March 28. In a re-closable container, a side wall having an outwardly stepped upper portion including an uppermost wall part and a next upper wall part disposed inwardly of said uppermost wall part and connected thereto by a downwardly facing inwardly directed external shoulder.

Insert for Bag Valves, Francis G. La Fave (to St. Regis Paper Co., New York, N.Y., a corporation of New York). U.S. 2,977,038, March 28. In a valve construction formed in a valve bag adapted to be filled by a filling spout extending into such valve, such construction including a valve opening and a flap for closing said opening.

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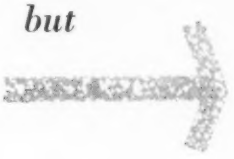

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Plastics today

[*Continued from page 101*]

The list of products now available in plastic tubes suggests their versatility. There are drugs and pharmaceuticals; cosmetics and toiletries; foods; automotive products; plant foods; finger paints and other childrens' novelties; such consumer specialties as glues, shoe dressings, oven cleaners and soldering compounds, and such industrial specialties as resin hardeners, inks, silicones and paint pigments.

Although conventional polyethylene was originally the dominant material for squeeze tubes, high-density polyethylene and vinyl have greatly broadened the scope of this plastics packaging form.

And now polypropylene seems to be coming into its own and may eventually become the top choice on its merits. The first commercial application of a polypropylene tube, by Melissa, Inc., for a squeeze-out make-up product appeared only two months ago. In this instance, polypropylene was chosen primarily for its efficient grease resistance and retention of fragrances. But of broader significance, the high yield of polypropylene, due to its low specific gravity (at 0.905, the lightest of all plastics), permits these tubes to compete on a favorable price basis with other plastic tubes.

Heralded as potentially "the most exciting development of the decade" in packaging,[1] foamed plastics appear well on the way. While many foams have been on the market only a short time, applications are growing and can be expected to pile up as packagers devise more functional and decorative ways to handle these feather-light, low-cost plastics.

Much excitment is being generated by extruded polystyrene foam in web form. Easily formed, chemically inert and printable, the material lends itself to a variety of packaging applications. Possibly one of the biggest is use of the material as nesting platforms for fragile articles. In one of the first applications, General Electric is using extruded polystyrene foam (Dyna-Foam Div., Sun Chemical) as a protective two-piece cradle for a transistor radio in a set-up paperboard box.

Extruded polyethylene foam, too,

[1]See "Foamed Plastics on the Rise," MODERN PACKAGING, Oct., 1960, p. 95.

is developing in the area of protective interior packaging. Although basically more costly than polystyrene foam, it offers such characteristics as non-abrasiveness, water repellence and good recovery, which gives it extra value as a cushioning material. One supplier (Pac-Tron, Inc.) has developed expanded-polyethylene corner cushioning pads for corrugated cartons. Consisting of three hinged pads set into each corner of a carton, the pads reportedly will shockproof any fragile item up to 25 lbs. in weight.

Meanwhile, the older polyurethane and pre-expanded polystyrene foams are moving ahead strongly in consumer and industrial markets. GE is shipping a huge turbogenerator weighing thousands of pounds on a simple bed of polyurethane foam only 4 in. thick. This company also is preparing other packages made entirely of molded foam and is combining foams with paperboard structures for other products.

A growing use of molded foams is for combined shippers and tote trays for delicate electronic parts or machine components. The package serves as a picking tray during assembly operations, then protects the products in shipment. Many packagers also are experimenting with foam and paperboard combinations that can be varied to fit different products, or with foam film and sheet that can be thermoformed to product contours at low cost.

Polyurethane and polystyrene have an advantage with paperboard because they can be poured into place and formed in the plant without heat or costly molds. Royal McBee, which started out with an all-foam package, has switched to a combination polyurethane-foam-and-corrugated container for its line of typewriters. And at the packaging show, experimental sheet-foam packages were shown equipped with hinged covers or product-gripping undercut sections.

Plastics, alone and in combination with other materials, have literally created a revolution in packaging. So rapidly have new developments crowded upon each other that the extraordinary becomes almost commonplace. The plastics have created whole new product areas, have given new impetus to others and have di-

[*Continued on page 222*]

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A clear, tough polyethylene film overwrap enables this tray holding 20 "Charms" candy packs to reach its destination undamaged. Result—no more complaints from dealers and distributors about wrapper breakage in transit.

CHARMS now overwraps in polyethylene

Already widely used for multiple-item packaging, polyethylene film recently crossed a new frontier—automatic overwrapping of cardboard tray packs.

Switching from conventional film, which often aged and tore before opening, Charms Company—"World's largest manufacturer of pure sugar hard candy"—now overwraps its 20-pack units in film made of BAKELITE polyethylene. The highly successful job is done on Package Machinery Company's Model FA machine.

A Charms spokesman sums it up: "Polyethylene film gives our tray packs longer shelf life; it has greater strength . . . and it costs less."

For distributors and retailers, this packaging breakthrough means that Charms candy trays stay wrapped until hand-opened. Breakage and splitting from shipping and handling are virtually ended, even during cold, dry weather.

Remember that sparkling clear, durable, soft-to-touch, polyethylene film costs less than any other transparent film. Coupled with modern, high-speed automatic overwrapping machines, this means new sales, more profit for you.

Contact your packaging supplier, or write us for a list of leading makers of automatic polyethylene overwrap machinery. Dept. KB-86F, Union Carbide Plastics Company, Division of Union Carbide Corporation, 270 Park Ave., New York 17, N.Y. *In Canada:* Union Carbide Canada Limited, Toronto 12.

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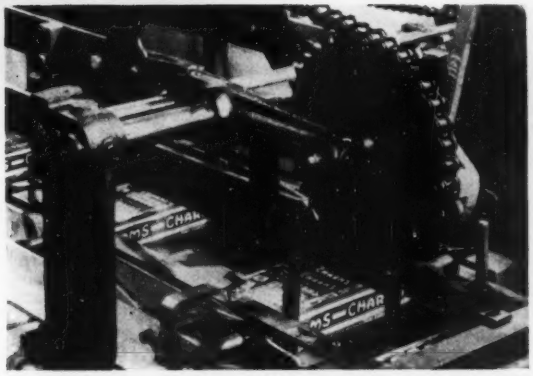

Automatically wrapping and heat-sealing from 70 to 80 tray packs per minute, this Package Machinery Company machine has helped Charms Company save money with polyethylene film.

STEPHEN F. BYRNE, *Charms Company's production manager, says:* "Polyethylene gives our tray packs longer shelf life; it has greater strength . . . and it costs less."

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[*Continued from page 219*]

rectly improved the functional properties of long-established materials and containers. And, authorities insist, the great future lies ahead.

Apart from the direct impact, the onrush of plastics in packaging has had a less measurable, though nonetheless significant, effect. It has doubtless been the catalyst that has accelerated the development of product improvements in competitive container-supplying industries.

One final indicator of the tremendous importance of plastics in packaging today is that virtually every major producer of glass, metal or paper materials and containers now has a big corporate stake in the plastics business. ●

New product symbol

A stylized apple silhouette is now the "official symbol" of the Washington State Apple Commission and will be used on all packaging, advertising and display materials. It is expected that many growers and shippers will use the symbol in conjunction with their own brand names and trademarks. Selection of the symbol, created as a result of a research project involving the use of a panel of 200 women who were asked to respond to a variety of symbols under consideration, ends a long search by the commission for an identifying mark that could be used in one or two colors and in a variety of applications to identify and connote product quality.

Simple silhouette of an apple in one or two colors is family symbol for Washington State apples.

SUPPLIES AND SERVICES: Symbol design by Container Corp. of America, 38 So. Dearborn St., Chicago 3.

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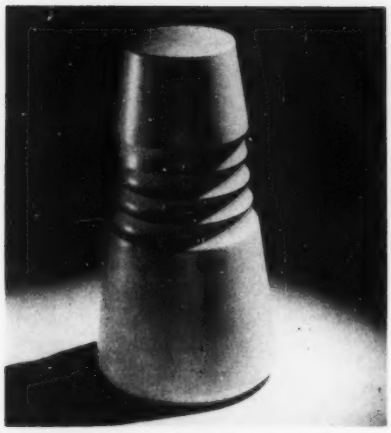

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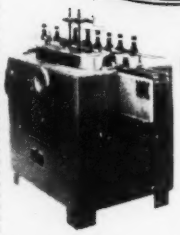
MARKING EQUIPMENT FOR THE PACKAGING INDUSTRY

COZZONE

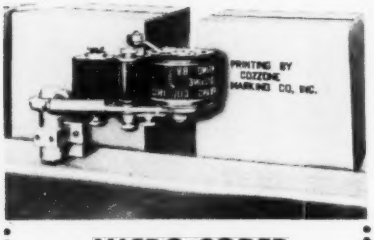


BOT-M-CODER

Used for code dating container bottoms — aerosols, cans, jars, bottles ...speeds up to 400 containers per minute.

MICRO-PRINTER

Versatile machine, adaptable to conveyors, cartoners, sealers, etc.; friction or power drive. 50 models available.



MICRO-CODER

Easily installed on all kinds of packaging or processing equipment. Imprints top, bottom or sides of wide range of packaging sizes and materials.

Also available:

SIDE PRINTERS
TOP-N-BOTTOM CODERS
INK & TYPE FOR ALL MODELS

Inquiries invited for custom models to meet your specifications.

COZZONE MARKING CO., INC.

18 Nuttman St., Newark 1, N. J.

Precision Equipment for Nearly Half a Century

Hazard labeling

June 28 is the deadline for comments on proposed regulations under the new Federal Hazardous Substances Labeling Act. Effective Aug. 1, the law requires precautionary labeling on hazardous household products.

Views and comments should be presented in writing to: Hearing Clerk, Department of Health, Education & Welfare, 330 Independence Ave., S. W., Washington 25, D.C. ●

Ram loading

[*Continued from page 123*]

the four lines in front of an operator who checks the bottles and drops a divider on top of every 12 units. This is the only manual operation on the machine, but since the product requires an inspection anyway, it was not considered practical to mechanize this step. However, the dividers are automatically pushed down between the bottles by a plate mounted on the cartoning head that cycles with it.

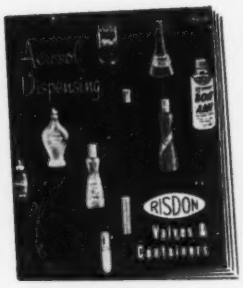
The loader is a transverse ram, sized to accept a group of 12 bottles, three bottles wide. It pushes the bottles across two dead plates and squeezes the load against a backstop equipped with three vertical leaf springs. The ram is driven by a cam-actuated lever held by a Bendix-type spring—hence the bottles are firmly gripped between two spring-loaded members and cannot fall when the second dead plate (which is under the bottles and over the incoming stream of set-up cartons) is drawn away preparatory to the loading operation.

A vertical ram above the bottles now pushes the load down into the cartons and the containers continue on a merry-go-round conveyor to the back of the machine where the dust flaps and tuck top are closed by a conventional series of fixed plows and mechanical tuckers.

Slight modifications also were made in the cartons and the standard erecting machine to facilitate automatic handling. Angles on the four interlocking bottom flaps were cut back to prevent catching and a special mandrel, mounted on the carton loader, plunges into each carton before the bottles are introduced to make sure the flaps are properly locked. ●

Free Booklet On

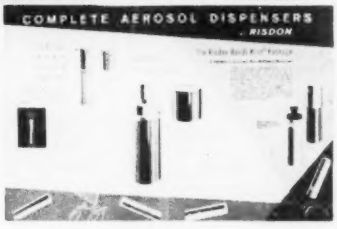
AEROSOL DISPENSING



Via RISDON

Valves & Complete Containers

To up-date your knowledge of what's new in aerosol dispensing and packaging, send for this free Risdon booklet. It covers the complete Risdon line in 16 colorful, illustrated pages. Helps you to select the type of Risdon valve or dispenser best suited for your product whether packaged in glass, metal or plastic.

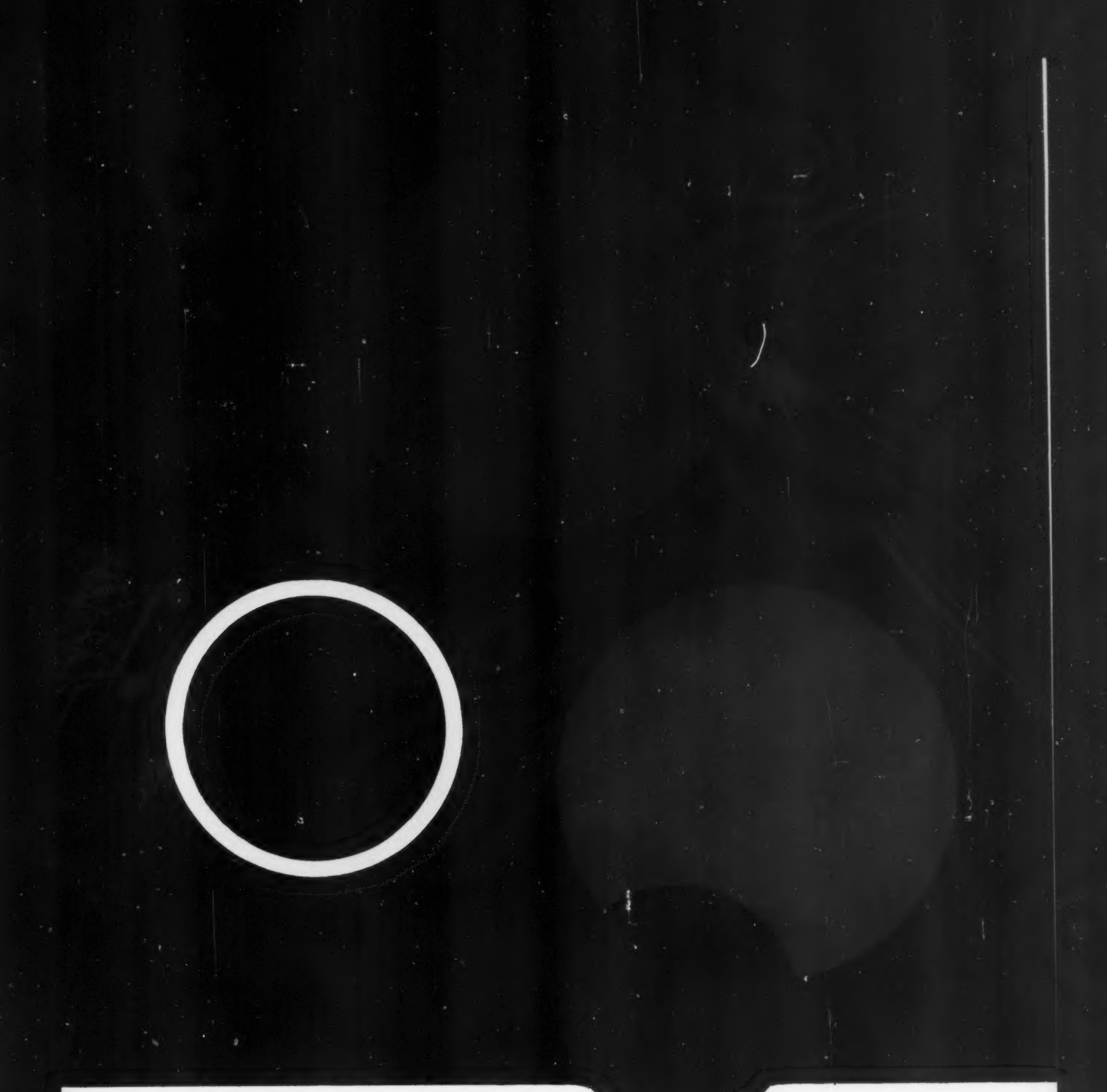


Includes details on Risdon's GB Valve, Micro-Mist® Valve, small and large capacity metering valves, 5210 Valve, special actuators and on Risdon's line of complete aerosol-dispensing containers. Actual size illustrations show the Mini-Mist® and Vaniti-Mist® refillable containers and the Handi-Mist® non-refillable package.

Send For Your Free Copy

THE RISDON MANUFACTURING CO.
AEROSOL DIVISION
NAUGATUCK, CONN.

RI-118



VYNEX*— the new vinyl sheeting for a shelf-appeal package

Vynex is the new, high-gloss, rigid vinyl sheeting that received such enthusiastic response from marketers at the Packaging Show. It's the newest development for blister "see-through" packaging that gives stability, strength and moisture-proof protection to your product.

Vynex is just one of many things happening at the new Nixon-Baldwin — specialists in calendering, extrusion and block production for a wide range of thermoplastics, including rigid vinyl, high impact styrene, three cellulose formulations, ABS and the polyolefins.

Ask about Vynex or any of the Nixon-Baldwin thermoplastics — all backed by five generations of experience, a factor essential to meet the critical standards of today's markets.

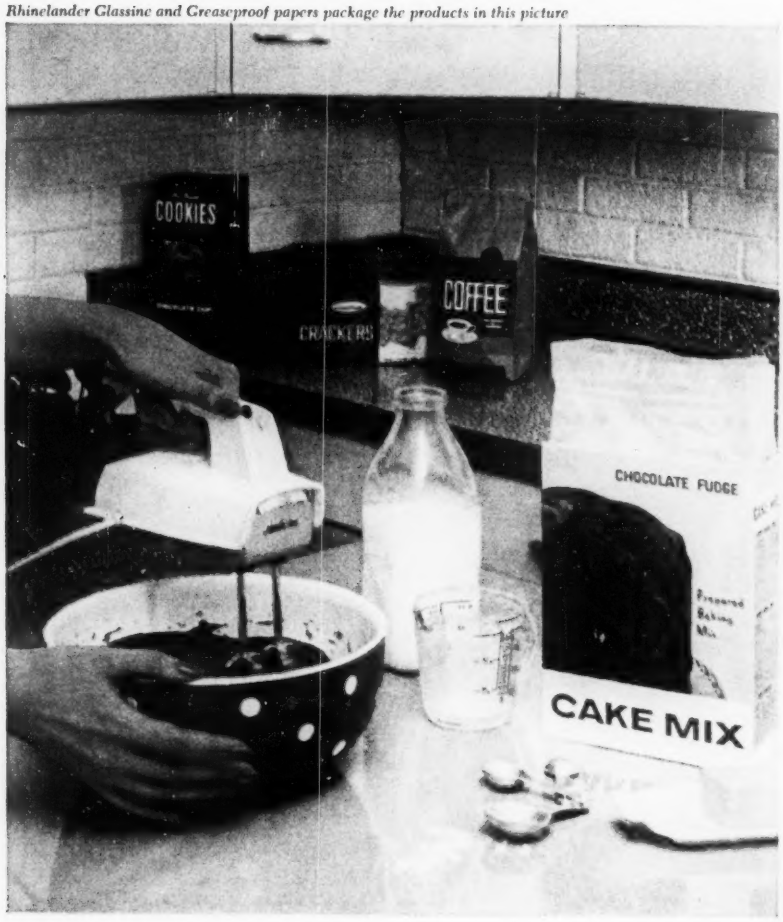
Nixon-Baldwin . . . The Material Difference in Plastics Progress.

nixon-baldwin chemicals inc. *Nixon, New Jersey*

*A tradename of Nixon-Baldwin Chemicals, Inc.

beat well...goes for paper making, too

Rhinelander Glassine and Greaseproof papers package the products in this picture



Beat Well says the recipe – and the housewife who knows her cakes knows the importance of beating. And beating is equally important in the making of the high density wax laminated liners that protect cake mixes. These and a host of other time-saver foods are packaged in Glassine and Greaseproof papers . . . the wonder papers of modern packaging. Write for complete information stating your particular application.

In making Glassine and Greaseproof at Rhinelander, beating is a meticulously controlled process, considerably lengthened to transform the cellulose fibres into tiny strands, later tightly compacted on the paper machine. The microscopic fibrillae give Glassine and Greaseproof its density, its greaseproofness, and versatility.

These tight, dense papers keep foods fresh – resist greases, oils and fats – retain aromas, and protect flavor and quality.

RHINELANDER

Rhinelander Paper Company • Rhinelander, Wisconsin

Division of St. Regis Paper Company

GLASSINE AND GREASEPROOF...PAPERS FOR PROTECTIVE PACKAGING

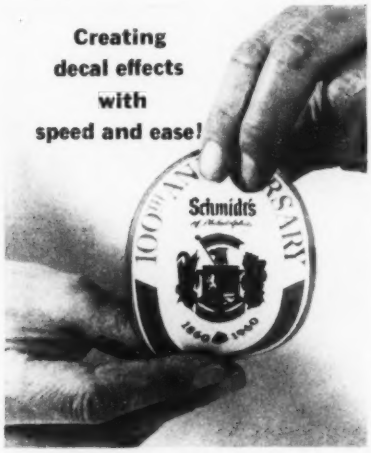
More effective labeling and tagging!

Time was when most labels and tags were considered routine printing jobs. Those days are gone forever . . . The growth of self-service consumer buying has made top management realize the importance of tags and labels as selling tools at the point-of-sale . . . and increased the responsibility of the men who buy them.

Today, tag and label buyers look beyond first cost to the job to be done. They look for tagging and labeling techniques that increase point-of-sale effectiveness, meet difficult specifications or reduce over-all costs.

Naturally, many of these value-minded buyers look first to Dennison . . . originator of more new labeling and tagging techniques than any other single source. A few examples of problem-solving teamwork between buyers and Dennison are briefly reviewed here.

Creating decal effects with speed and ease!



Beer and safety razor blades have little in common. Yet, both have profited from a labeling technique that speeds and simplifies decoration.

Schmidt's of Philadelphia celebrated its 100th anniversary as a brewer in 1960 . . . with a Dennison split-top pressure-sensitive label playing a major role. Printed in three colors on transparent acetate and gummed with permanent Dennison PRES-a-ply® adhesive, it simulated a decal in appearance and clinging power. But, how different in application ease. No soaking in water. No sliding into position. Just a zip of its paper backing . . . a pat of the fingers . . . and there it was on an automobile or truck window. All of Schmidt's employees and distributors participated.

Gillette used the same labeling technique to redecorate thousands of counter cases when the Super Blue Blade hit the market with history-making impact in 1960. This Dennison PRES-a-ply label was printed in red, white and blue on transparent acetate to match the "price" spots already silk-screened on the glass cover of Gillette's full-line display case. Neatly and securely applied in seconds by finger-tip pressure, it saved time and bother for Gillette salesmen as they made their pre-promotion rounds.

Other users of this PRES-a-ply labeling technique find it the quickest, easiest way to add new prices, premium offers and other promotional or variable information to existing packages or displays. High-speed Dennison PRES-a-ply label dispensers keep application costs amazingly low.

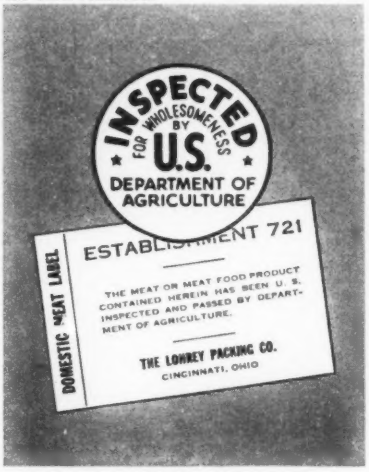
Giving "Easy on" labels extra "Stay on" power!

Few users of labels must meet such demanding specifications as meat processors. For, the US Department of Agriculture, a strict task master, insists on meat products being permanently labeled according to its regulations for consumer protection.

Cryovac film packaging of poultry, for example, calls for the application of a USDA inspection label after the film has been shrunk tightly around the bird in boiling water. The labeled package is then subjected to hours in a deep freeze. Yet, the label must remain 100%, tamper-proof. For a Tennessee processor, Dennison supplied a pressure-sensitive label with such permanent adhesion that it cannot be removed without detection. To the customer's delight, the USDA inspector gave his complete approval not only for use on Cryovac film but also on waxed paper overwraps and waxed board boxes.

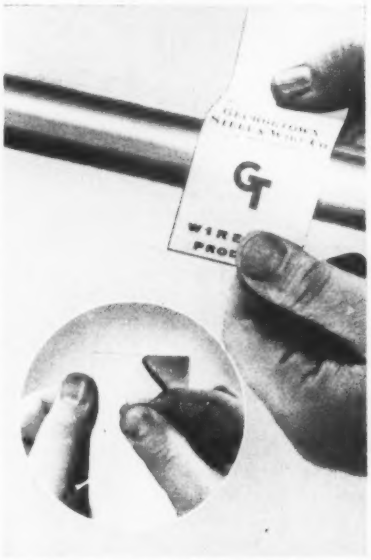
This same Dennison PRES-a-ply labeling technique is also bringing The Lohrey Packing Co. of Cincinnati and other federally inspected meat packers the benefits of strong adhesion. USDA regulations specify the labeling of stainless steel trucks and containers for meat and meat products. Each time a truck or container is emptied, it must be thoroughly steam-cleaned before re-use. Previous labels washed off after each use and often clogged drains, causing costly plumbing bills.

Dennison solved the problem by supplying PRES-a-ply labels with *an adhesive so strong that even steam cleaning could not take it off!* Printed on water-proof stock with grease-proof ink and over-varnished, these labels survive *40 washings!* The Lohrey Packing Co. no longer has to worry about continually reordering and applying labels to their containers. A big headache has been removed.


INSPECTED FOR WHOLESOMENESS BY U.S. DEPARTMENT OF AGRICULTURE
ESTABLISHMENT 721
DOMESTIC MEAT LABEL
THE MEAT OR MEAT FOOD PRODUCT CONTAINED HEREIN HAS BEEN U. S. INSPECTED AND PASSED BY DEPARTMENT OF AGRICULTURE.
THE LOHREY PACKING CO.
CINCINNATI, OHIO

If you need labels that will stay on through steam cleaning, freezing or any other harsh environment — you need permanent PRES-a-ply.

New stringless technique slashes tagging costs!



A stripe of self-sticking adhesive on the back of the tag is now replacing the traditional string or wire in many cases.

This new tagging technique not only reduces attaching costs but also brings the benefits of tagging to products formerly considered impossible, impractical or difficult to tag.

With the self-sticking stripe on one end, as on the back of the Georgetown Steel & Wire Co. tag, you have a new wrap-around technique. It is now increasing the point-of-purchase appeal of such widely varied products as tools, home appliances, luggage and furniture. Other users apply these tags directly to doors, windows, lumber, trunks, tires, windshields and toys.

In-plant applications of this new technique employ couponed system tags for production, piece-work and inventory control.

NEW FACT FOLDER!

If you're responsible for getting more sales impact per dollar out of tags and labels or reducing over-all labeling and tagging costs, this free fact folder will prove invaluable to you. It describes techniques and shows samples that are now increasing sales and profits for some of America's most successful marketers. For your free copy, write directly to Dennison Mfg. Co., Dept. T227

Dennison

Helping you compete more effectively

FRAMINGHAM, MASSACHUSETTS

Plastic blister-carded valentine greetings

[*Continued from page 107*]

the electrically powered heater and master control panel.

Trimmed blisters are indexed out of the trimming die by movement of the web. Emerging in nicked form, they are quickly separated by an operator who places them on a table for transfer to the collating machines. APS plans to install a conveyor system between former and collators so the packaging operation can be completely in-line.

The two APS-designed, 36-ft. collators can handle as many as 25 different types of greeting cards at one time. Speed of each collator averages 50 of the 25-card assortments per minute. At the time these machines were installed several years ago, APS's labor requirements were reduced from 35 people needed for hand packaging to only 12.

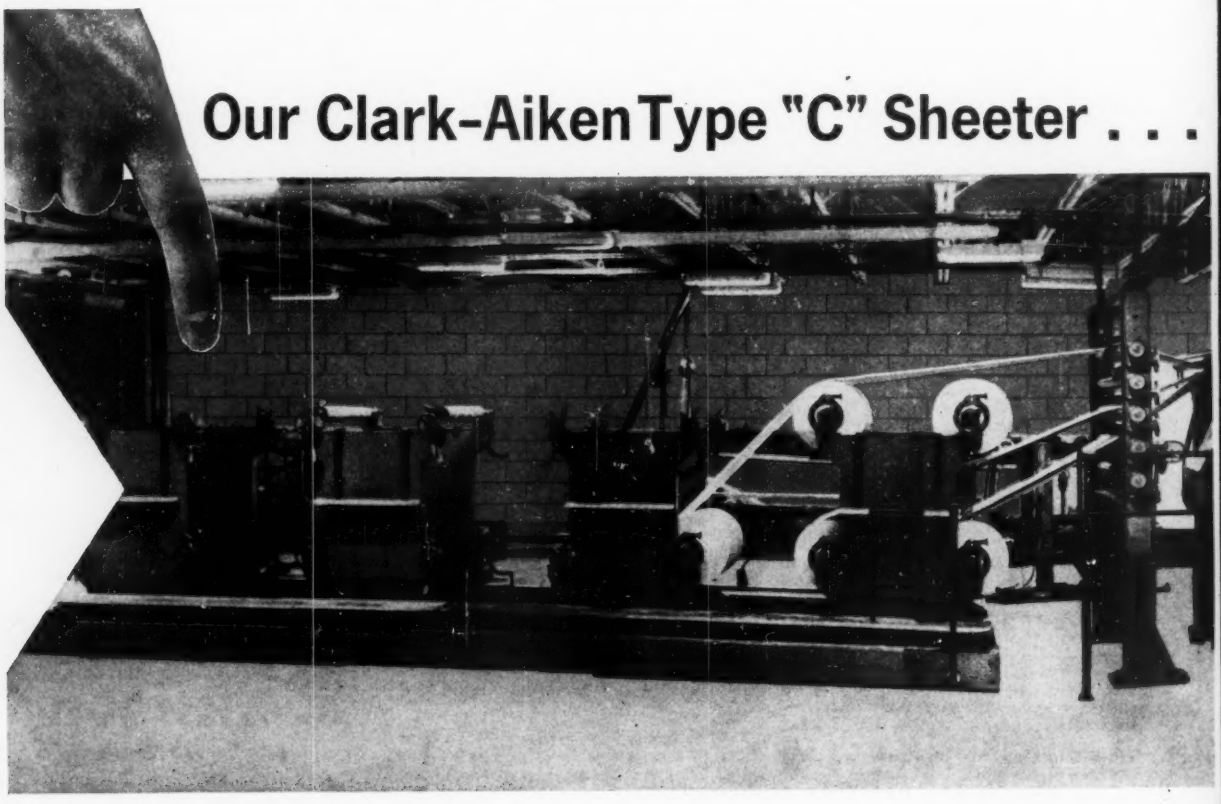
Up to 100 units of each greeting-card design are loaded into individual hoppers stationed along a conveyor. A vacuum-operated, rubber-tipped suction head mounted on each hopper pulls one card from the bottom of the stack and holds it poised above the conveyor moving beneath. The conveyor's lugs, spaced at about 18-in. intervals, pick the card off the suction head and direct it downward between metal slides into position on the conveyor. The suction head then returns to pick up another card. This reciprocating motion takes place continually at all hoppers. A card from each hopper is deposited neatly on each of the card groupings building up along the conveyor.

When collating is completed, an operator stationed near the end of the conveyor loads each card assortment face down in one of the pre-formed blisters and adds a packet of envelopes. The filled blister continues to travel down the conveyor until it reaches two portable heat sealing units that are stationed alongside.

These standard sealers have four stations each, arranged on a circular table which revolves clockwise toward the sealing mechanism. Each station contains one or more nests, depending on size of blister being packaged, into which filled blisters are hand inserted by one operator while another places a pyroxylin-coated printed card face down over each. As the station enters the sealer, a heated platen descends and applies heat through the card for approximately 4 seconds. The platen is heated uniformly over its entire surface and has no projecting lips. Nests on each station must be changed for each blister size, but the platen itself needs no change-over. The platen is maintained at a temperature of 350 deg. F.

While polystyrene requires somewhat more critical temperature control than other thermoplastics, APS reports no special sealing problems. No cooling period is necessary. Completed packages are hand loaded immediately into shipping containers.

Valentines were the product line for which blister packaging appeared most advantageous, so APS launched these new packages first. But sales results encouraged the company to extend blister packaging to Christmas tags and seals. Further expansion into the company's Christmas-card and even stationery lines is likely. ●



Evaluation of plastic jars in rough handling

[*Continued from page 156*]

of 2- and 4-oz. sizes were not damaged in any way. The covers were in place and had not loosened. However, the 8-, 12- and 16-oz. cellulose-acetate jar covers had become detached and somewhat deformed during rough-handling tests. One of the 16-oz. jars had a slight split (see Figure 1). These jars, it was found during the tests, are also subject to scratching.

Low-density polyethylene jars were not damaged in any way except that the covers had become detached (see Figure 2). Since this had happened even to the smallest-size jars (2- and 4-oz.), it became obvious that this type of closure was not suitable to retain polyethylene jar covers if they are likely to be subjected to rough treatment.

All polystyrene jars had been broken or badly split during the tests (see Figure 3). These results made it apparent that polystyrene jars would not be suitable for use where it is likely that any rough handling might be encountered.

The high-density polyethylene jars were not damaged during the tests. The 2- and 4-oz. jar covers were intact and were not loosened. The 16-oz. covers had become detached (see Figure 4). Detailed damage to the jars tested is tabulated in Table V.

Conclusions

Results show that only the high-density polyethylene and cellulose-acetate jars in 2- and 4-oz. sizes weathered the rough-handling tests without sustaining damage of some sort. The polystyrene jars were all excessively brittle, while the low-density polyethylene jars were so flexible as to allow loss of the covers, as occurred with the large-size jars of the remaining materials. The closures were poor and not designed to withstand rough handling. This was evident in the quick-leak-test results, as well as the rough-handling tests. The polyethylene jars were not transparent.

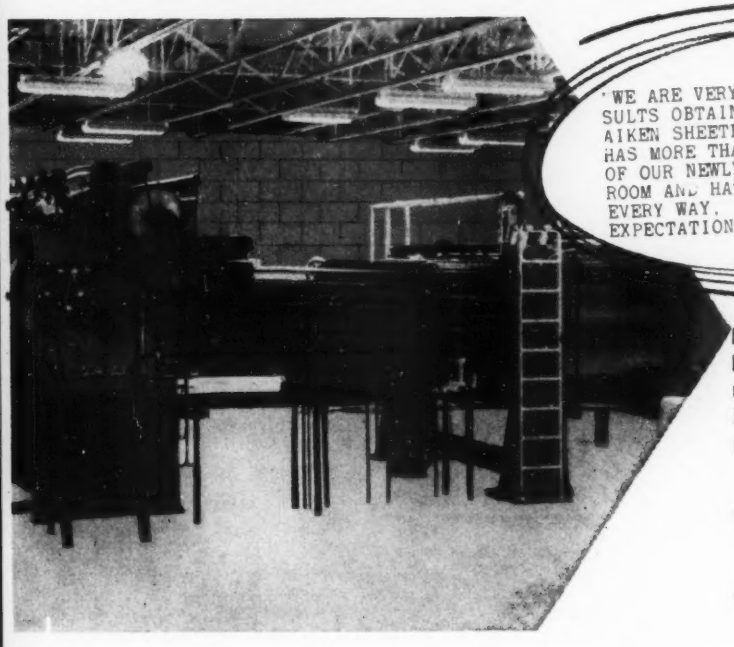
None of the jars of any material tested would be satisfactory as presently constructed for the proposed uses. The small 2- and 4-oz. cellulose-acetate jars offer physical protection and transparency; the small, high-density polyethylene jars offer physical protection only to such contents. However, parts subject to damage by water and water vapor would not receive adequate protection in these jars. Improved closures, thicker walls and better gaskets might result in more satisfactory products for the intended uses in some of the materials. ●

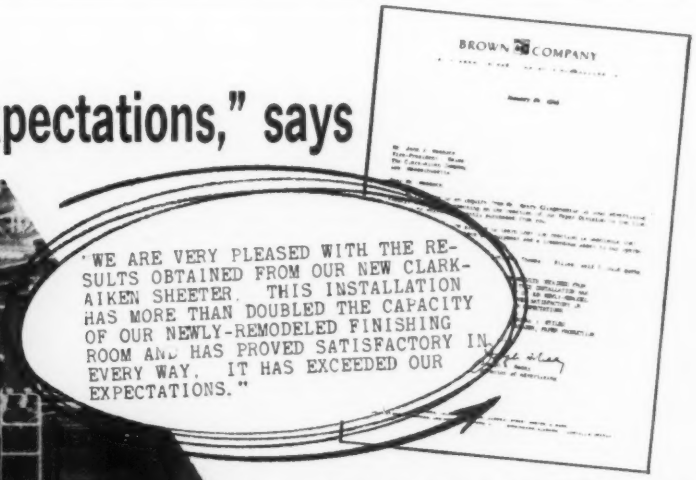
Sounding Board

[*Continued from page 67*]

seven years ago we decided that, since we were packing a considerable volume of glass containers, it was time we did some extensive work on the development of a completely integrated line of glass-handling equipment. Accordingly, our engineering research department and our plant engineering department got together with the production department to develop ideas. One of our main problems was to eliminate jar-to-jar contact in the handling of glass and to minimize surface abrasion of the ware. Also,

"Has exceeded all expectations," says




BROWN COMPANY
"WE ARE VERY PLEASED WITH THE RESULTS OBTAINED FROM OUR NEW CLARK-AIKEN SHEETER. THIS INSTALLATION HAS MORE THAN DOUBLED THE CAPACITY OF OUR NEWLY-REMODELED FINISHING ROOM AND HAS PROVED SATISFACTORY IN EVERY WAY. IT HAS EXCEEDED OUR EXPECTATIONS."

For a complete presentation of how Clark-Aiken can help you plan increased finishing room production with reduced costs, write or phone us today. You'll find interested cooperation and immediate attention to your requirements.

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DESIGN
that attracts
On-Schedule
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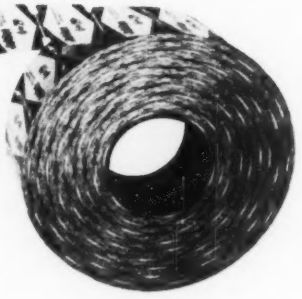
KNOW-HOW



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You see Oliver Roll-Type, Heat-Seal Labels on leading products everywhere. Oliver labels are printed and used in continuous roll form and applied automatically by mechanical heat-sealing methods. They are cleaner, easier to store and inventory, more economical to use. Our specialists will recommend *the right adhesive for your film.* Oliver's *"one-stop service"*—complete from design to printing—can serve you, too!

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- **BLISTER CARDS**
- **CONTRACT PACKAGING**

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TOO, WE AT AMERICAN CARDBOARD GUARANTEE TO MEET EVERY REASONABLE DEADLINE!

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making compacts?

Powder pack them automatically, economically, to top quality standards with the precision-built Arenco-ALITE compacting machine. The Arenco-ALITE is designed for rapid powder changeover and minimum maintenance. Ideal for the new cream-powder compacts from 1" to 4" major dimension. Recovery system with quick-change bags eliminates waste. Shipped complete and self-contained, as specified. National sales and service facilities. Write for literature and quotation.

ARENCO
ARENCO MACHINE COMPANY, INC.
25 West 43rd Street
New York, N. Y

we were extremely interested in making smooth transfers, where it was necessary, and to materially improve the filling operation. We decided exactly what we wanted to accomplish and then set out to meet this objective.

Our first step was to contact all the major filler manufacturers and present our filling problems. One supplier in particular was very receptive to our ideas and agreed to work with us 100%. This manufacturer was farsighted enough to realize that if he contributed engineering, time, talent and money to the project, the market potential and the possibility of improving his machine for other users was great enough to warrant an investment of this type without asking us to bear this cost. We then contacted our container suppliers and asked them to join in the project. Our next step was to request that engineers representing the various suppliers sit down with our engineers and production people to discuss a proper plan of attack.

In the course of the development of this equipment, it was necessary for engineers of the companies represented to get together periodically to discuss the solution of particularly knotty problems. It was a joy and a revelation to see four or five top-notch engineers discussing a particular idea and to see that idea take shape, grow and ultimately become an actuality. Essentially, they picked each other's brains with amazing results. Several times these meetings required men to travel 2,000 miles across the country to attend, but the suppliers did it without reservation.

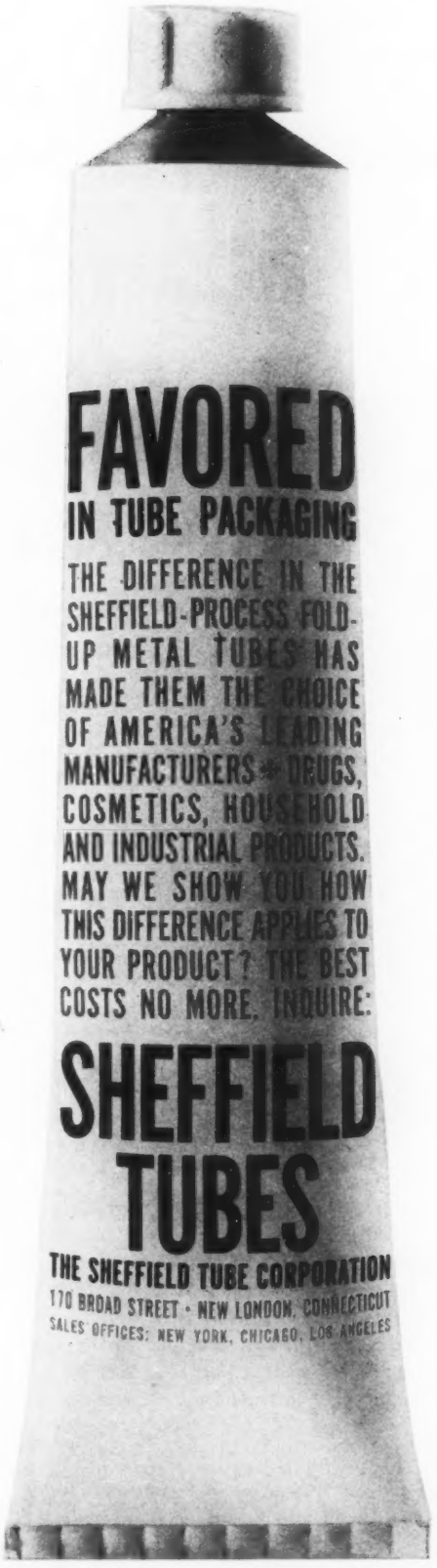
In the end, this project resulted in an integrated line of equipment for us, improvements to the suppliers' equipment—which resulted in substantial sales to us, as well as to others—and, I am sure, a mutual satisfaction that I, for one, had never experienced before.

To tackle a problem on this basis requires the following ingredients:

1. The user must know and understand his problems and must have a firm understanding as to exactly how he would like to go about solving them.

2. The suppliers involved must be farsighted enough to evaluate the potential of improving his own prod-

[*Continued on page 234*]


FAVORED
IN TUBE PACKAGING
THE DIFFERENCE IN THE SHEFFIELD-PROCESS FOLD-UP METAL TUBES HAS MADE THEM THE CHOICE OF AMERICA'S LEADING MANUFACTURERS * DRUGS, COSMETICS, HOUSEHOLD AND INDUSTRIAL PRODUCTS. MAY WE SHOW YOU HOW THIS DIFFERENCE APPLIES TO YOUR PRODUCT? THE BEST COSTS NO MORE. INQUIRE:
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The Complete Authority of Packaging

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FOIL-SELL
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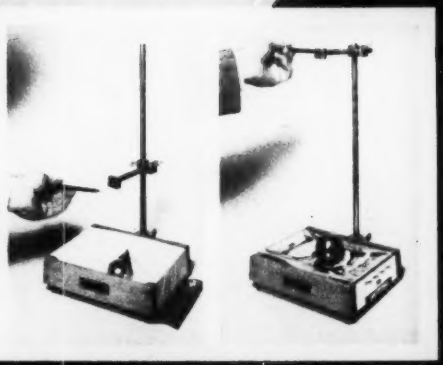

Steel ball breaks paper/poly/foil sheet from 4' drop. Same ball dropped 13' does not fracture Metallic Polycel.

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[*Continued from page 231*]

uct—not only for the particular user involved, but for others—and the sales potential, as well.

3. The supplier must evaluate these potential sales and determine what he can afford to invest in engineering, time and talent, and he must be willing to make this required initial investment.

4. The management of the various companies involved must be willing to give these men a free hand.

We are still improving our equipment and have used this same approach several times with others.

M. E. Baldridge
Manager of Labeling and Packaging
S & W Fine Foods
San Francisco

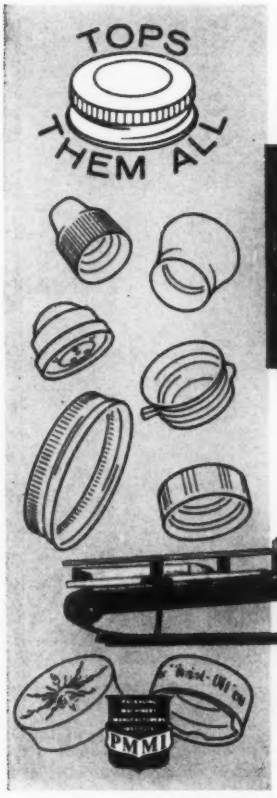
While machinery is in the development stage, the interest of the machinery manufacturer and that of the potential user customer are more closely allied than at any other time.

I have had the experience of developing specifications for a new package, based upon recommendations of marketing personnel, presenting them to a paperboard supplier and being told that such a package was not possible because there was no machine available which would form and heat seal it.

The supplier, however, was quite resourceful and took the problem to a machinery supplier who reluctantly (because the development was not far enough advanced) agreed that his firm had a machine under development which would do the job. He was glad to put the machine in our plant and send in his engineers to test and develop the machine under operating conditions. It was a happy arrangement for all.

In another instance, a packaging machine was being developed by its inventor for a product which had not at that time been packaged by an automatic machine. The inventor was happy to move the machine into our plant on a conditional basis and to use the operating conditions to perfect his machine.

In such a situation, necessity is indeed the mother of invention. In general, since machines must always be tested under operating conditions, the packager can supply those conditions. ●



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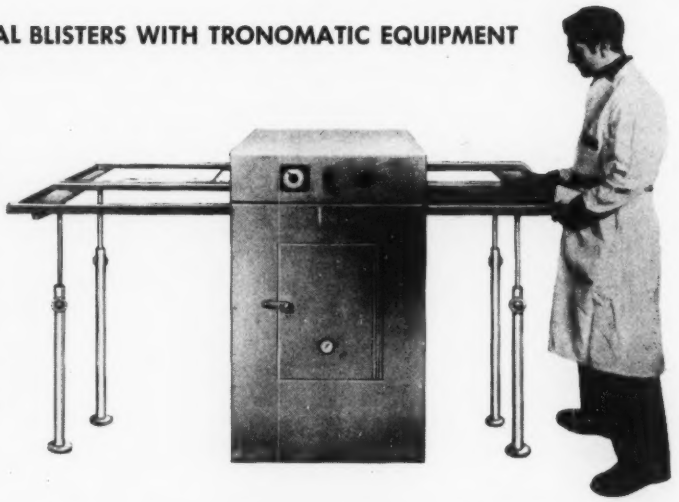

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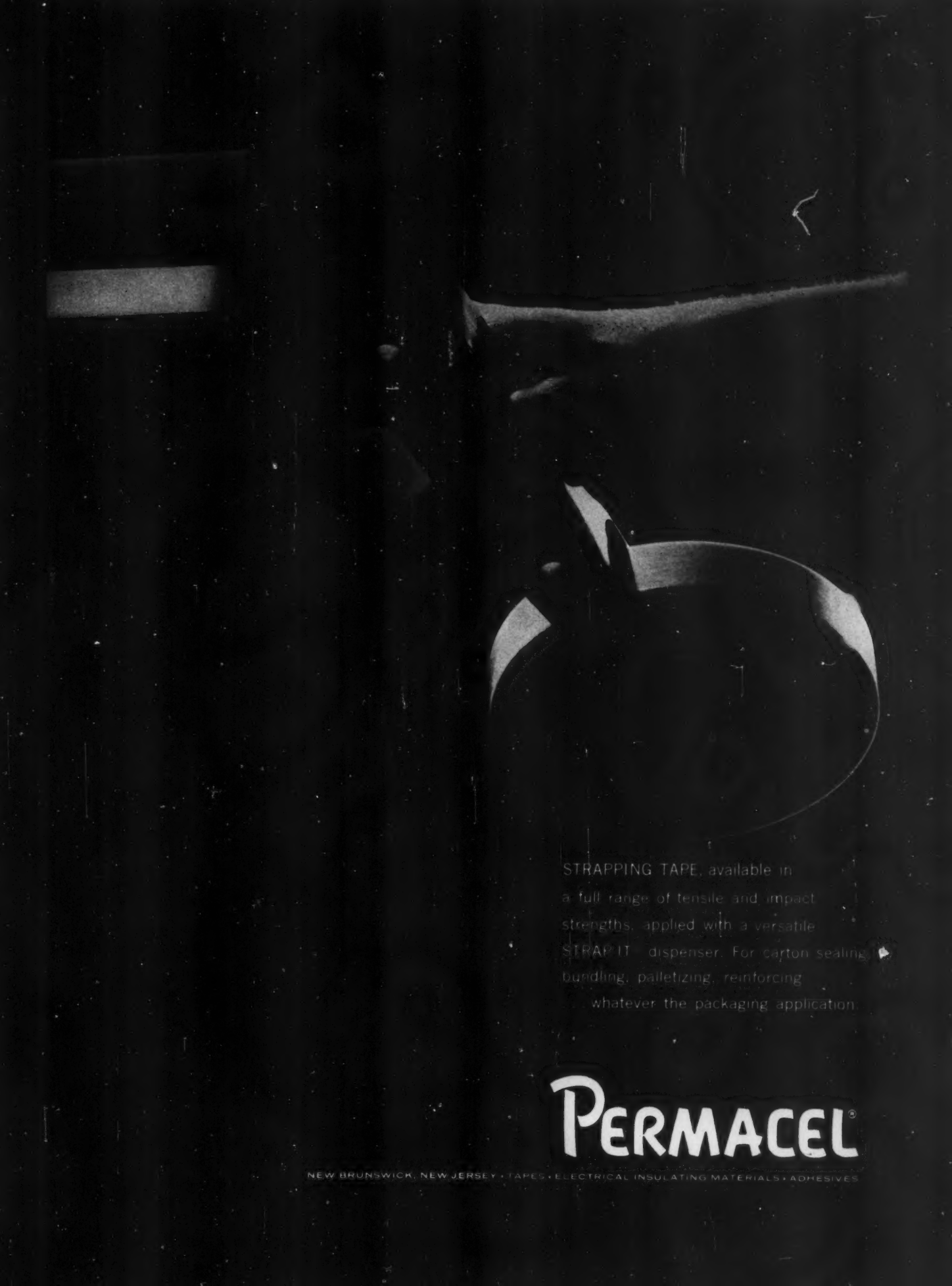

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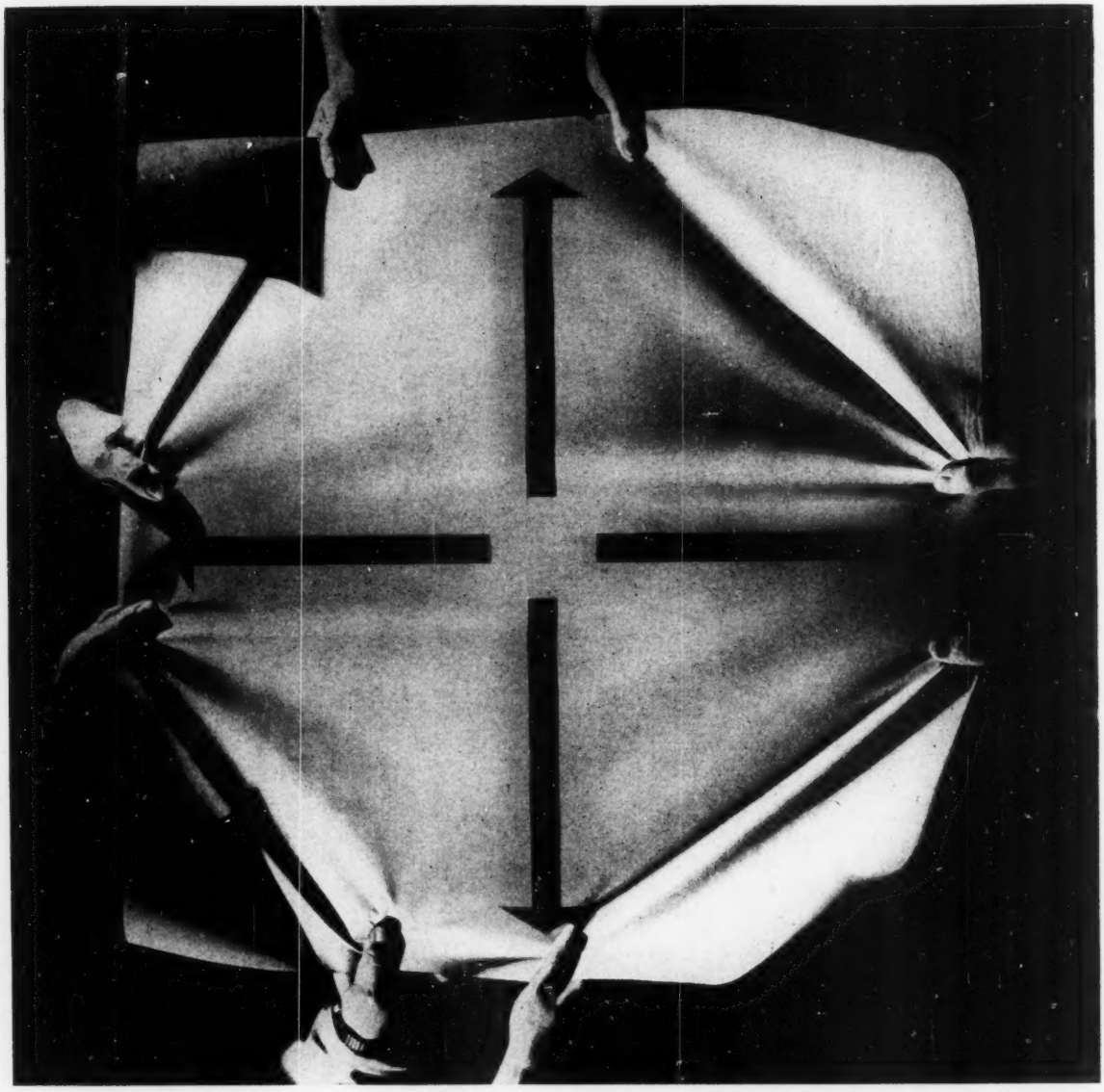

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You can use Expanda-Kraft for wrappers, multiwall bags, laminations, linings, backings or special protective packaging. It comes in 40, 50, 60, 70, 80 and 100-pound basis weights. Available in white, semi-bleached and natural.

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Conditions which must be met by packagers or suppliers to obtain further time extensions for packaging materials under the Congressional amendment to the 1958 Food Law have been announced by the Food & Drug Administration.

Emphasizing that the new rule does not automatically grant further extensions, F&DA said, however, that previously granted or pending extensions would be continued until July 1, 1961, to permit submission of extra information that will enable F&DA to determine whether these extensions can be continued to the legal limit of June 30, 1964. F&DA added that no extension can be granted unless the substance involved can be shown to present no present undue risk to public health.

Requests for time extensions beyond July 1 will be considered if the following information is promptly submitted:

1. The specified name or chemical designation of the substance, the use or uses for which it is desired and the amount and purpose involved in each specific usage.

2. A statement outlining the applicability of the Food Additives Law and estimates of the amount of research work needed to prove the safety of the packaging chemical.

Extensions beyond Jan. 1, 1962, will require the filing of progress reports every six months. ●

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United States exports of containers, packaging materials and packaging machinery gained 6% in 1960 compared with 1959, according to the U. S. Dept. of Commerce. Imports of such commodities rose 11.5%.

Outgoing materials in this field were valued at $156 million. Exports of aluminum foil, up 109.7%, showed the greatest gain, compared with a drop of 56.8% for crown caps, which registered the greatest low. Tinplate cans enjoyed the largest dollar value in exports among containers and packaging materials, $17.4 million, though this category was exceeded by machinery, which has risen 43% since 1956. Aluminum foil was the largest import item: glass containers with ground-glass stoppers, up 145.9%, was the greatest gainer. ●

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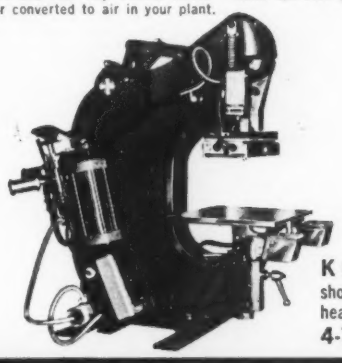

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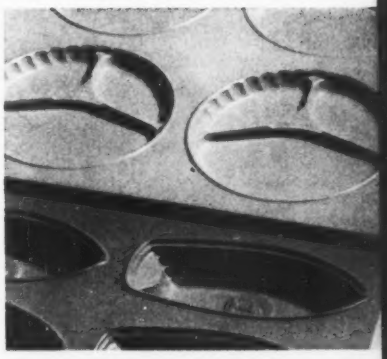

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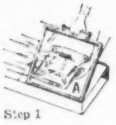

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1 Operator inserts product into V-folded film. Side A is sealed simultaneously with previous package.

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SUPPLIES AND SERVICES: Expandable polystyrene by Koppers, Pittsburgh 19.

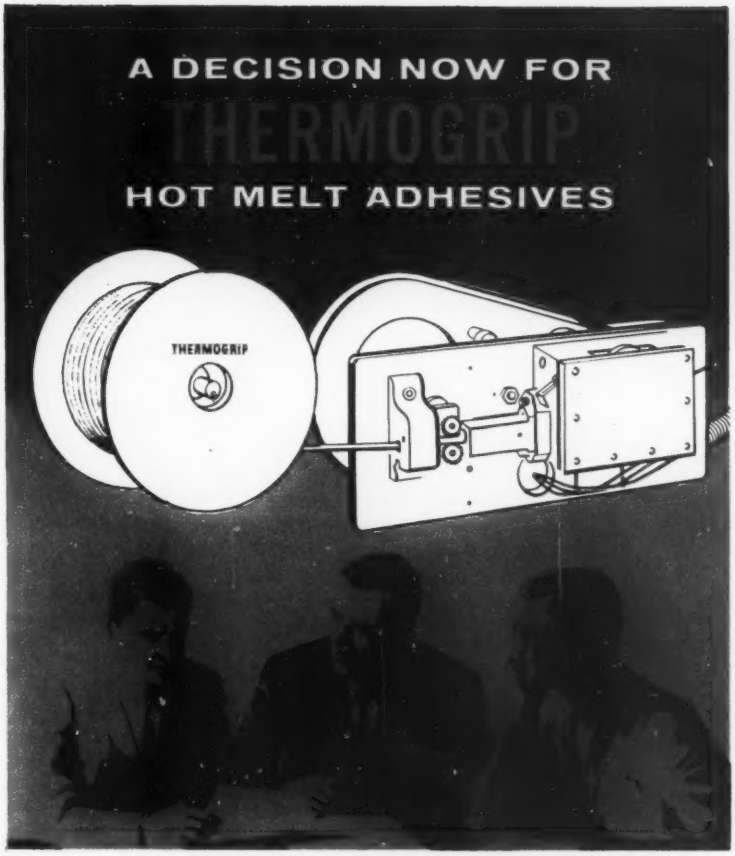
Adhesion promoters

[*Continued from page 147*]

general tendency for a low (550 deg. F.) polyethylene extrusion stock temperature to result in lower adhesions, but "Tyzor" AC, the poly (dibutyl titanate) ester, showed somewhat better results under this condition than did either of the other two primers. This observation held for all three substrates.

The pre-polymerized polydibutyl titanate ester had the advantage of ease in surface film formation with less tendency toward cracking and powdering. The lower boiling n-butyl alcohol evolved in the hydrolysis of this ester made oven drying easier than with the 2-ethylhexanol evolved from the octyl ester. The poor adhesion obtained from priming with octyl ester in Figure 11 was believed due to an adverse effect of 2-ethylhexanol on the K-coating.

Both test products had more of a



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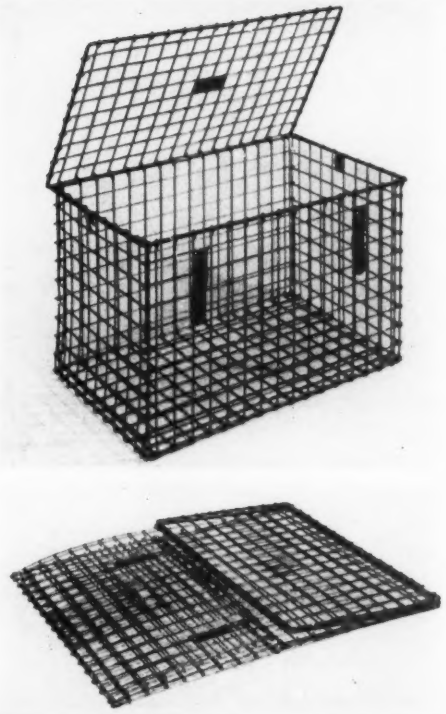

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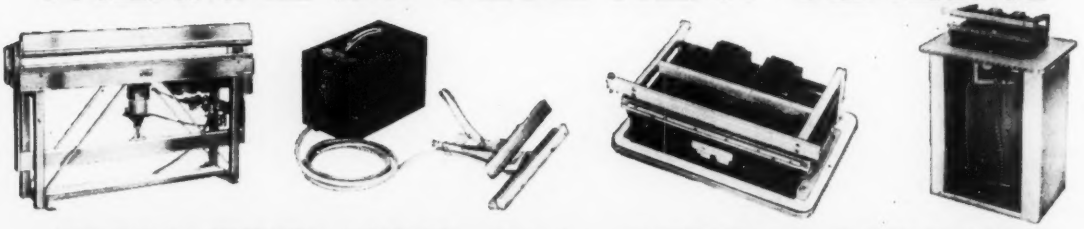

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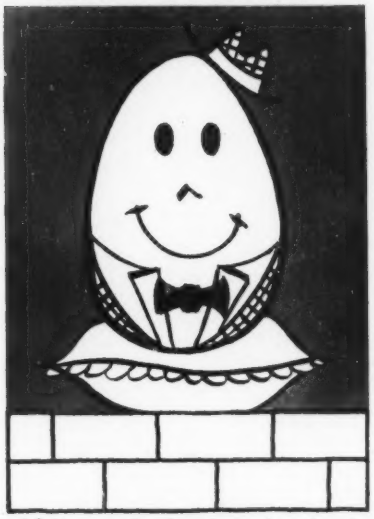

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tendency to develop odors than did "Tyzor" AP, due to the higher boiling alcohols from which they are derived. Good doctoring, proper priming speeds and appropriate oven conditions have since shown that this difference can be made rather insignificant.

In determining the minimum poly (dibutyl titanate) ester concentration needed to give good polyethylene adhesion, we found that maximum bonds (the polyethylene film broke on peeling) were obtained at concentrations ranging from 4.0% to as low as 0.5%. This last value is only one-eighth that recommended for "Tyzor" AP. At this time we feel that a safe 1% or 2% poly (dibutyl titanate) ester concentration should be used rather than the 0.5% experimental minimum. Odor development within the 0.5% to 4.0% concentration range of poly (dibutyl titanate) ester was negligible.

Conclusions

While our work has been directed toward the development of new and improved titanate ester primers, we found that the control of process variables is as important as the primer. To date, "Tyzor" AC poly (dibutyl titanate) ester is the choice primer because it has shown improved stability and better adhesion over a wider range of processing conditions than has "Tyzor" AP.

Acknowledgements

The authors would like to express their thanks to Mr. John E. Ericson of the Du Pont Film Department for his technical assistance.

The figures and graphs used here are from Mr. Gray's paper on organic titanates, presented at the 137th meeting of the American Chemical Society Symposium on Paints, Plastics, and Printing Inks, April 8, 1960, in Cleveland, Ohio.

"Alathon" and "Mylar" are registered trademarks and "Tyzor" is a trademark of E. I. du Pont de Nemours & Co., Inc.

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2. Goslin, J. P., and Sweeney, H. F. "The Interaction of Processing Variables, Base Materials, and Resins in Polyethylene Extrusion Coating," TAPPI, Vol. 43, No. 5 (May), 1960, pp. 434-447.

3. "Extrusion Coating on the Rise," MODERN PACKAGING, May, 1961, pp. 87-92. ●

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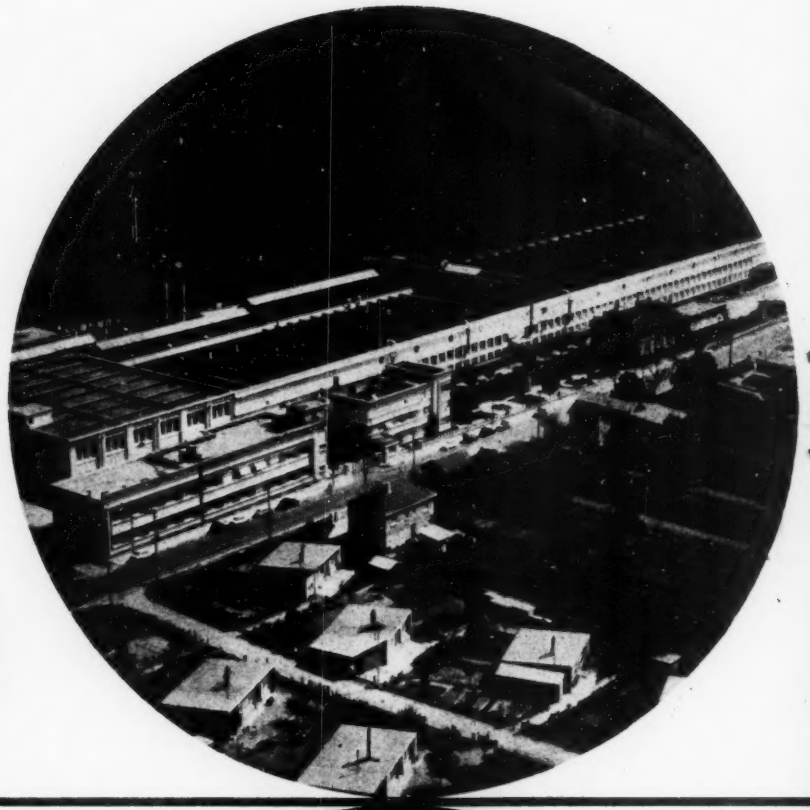
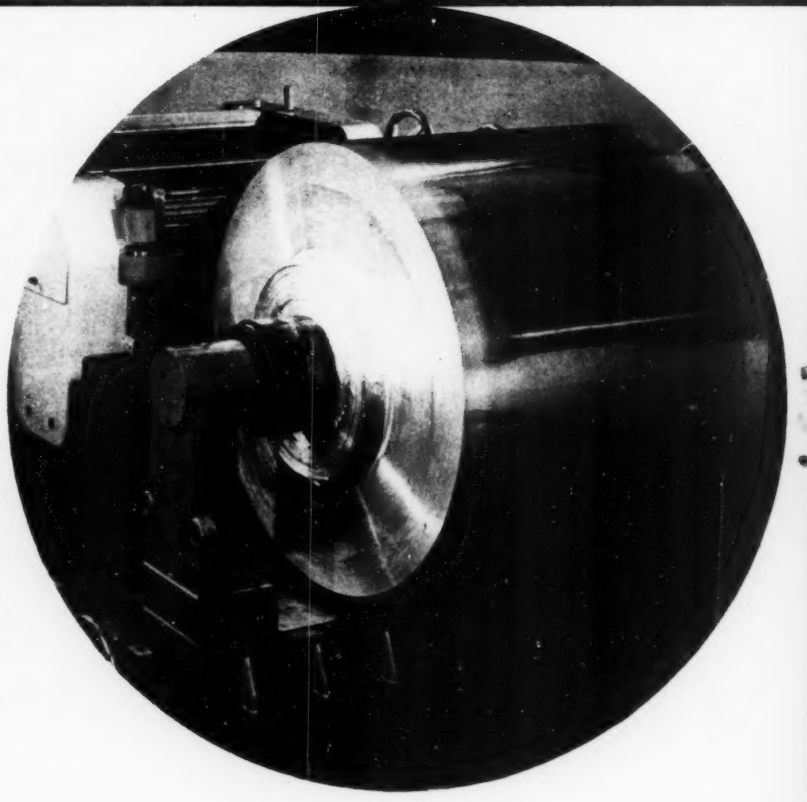


coquillard

Froges (Isère). **FRANCE**



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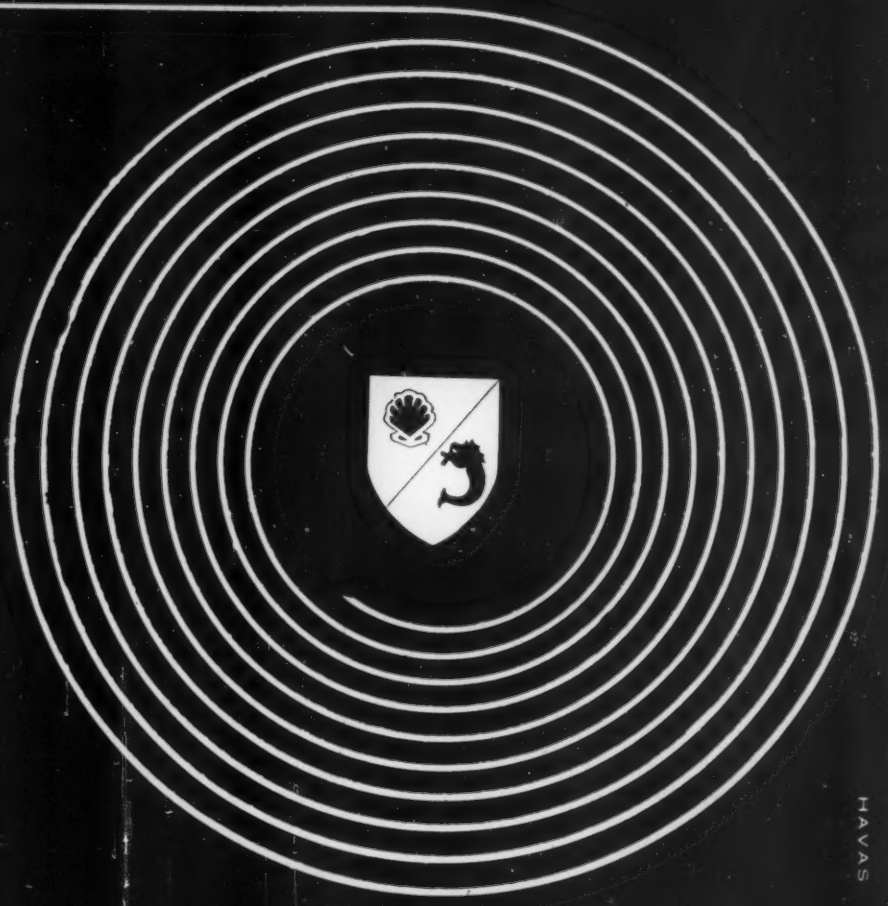

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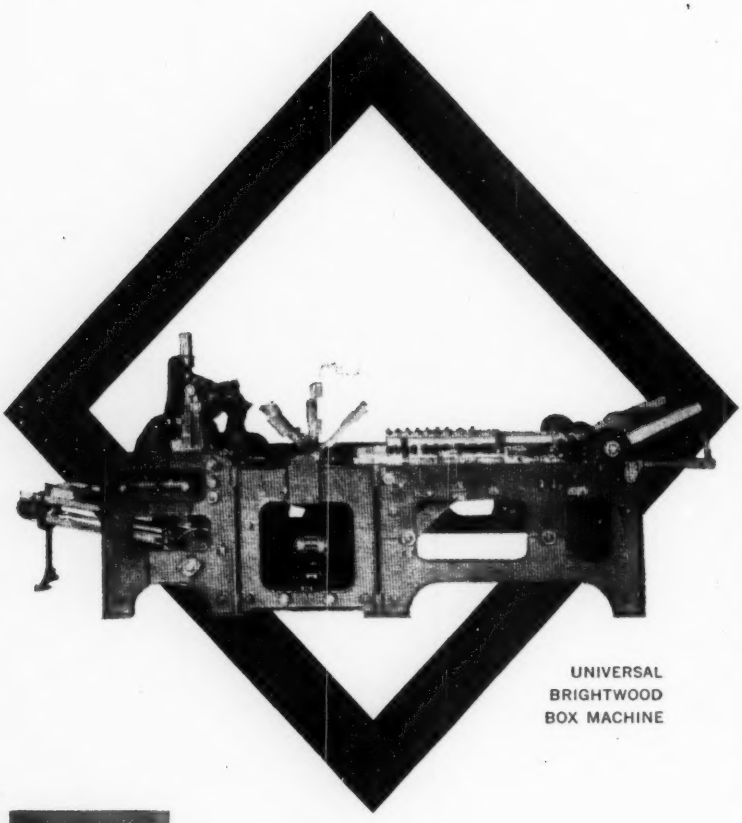

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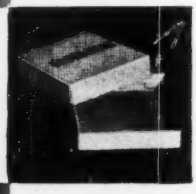
QUALITY boxes at lowest cost

In one automatic operation flat printed blanks become perfectly squared, solidly glued boxes for shoes, underwear, corsets, games, candy, etc. — boxes with turned-over ends and finished edges all around, made from double-walled or laminated blanks. Regular glued-end single wall boxes may also be made. A very wide size range can be produced on the one machine.

Write **US** for complete information.



PACKAGING MACHINERY MANUFACTURERS INSTITUTE PMMI MEMBER

U. S. AUTOMATIC BOX MACHINERY CO., INC.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.
Branch Offices: New York • Chicago
James C. Hale Co., Los Angeles, San Francisco • R. S. Gold, Toronto

Foam-in-place

[*Continued from page 109*]

alongside the keyboard, above the carriage and down behind the back of the machine. Their external measurements match the inside of the case. Thus, they act as bulkheads to seal off the end portions of the shipper from the center part.

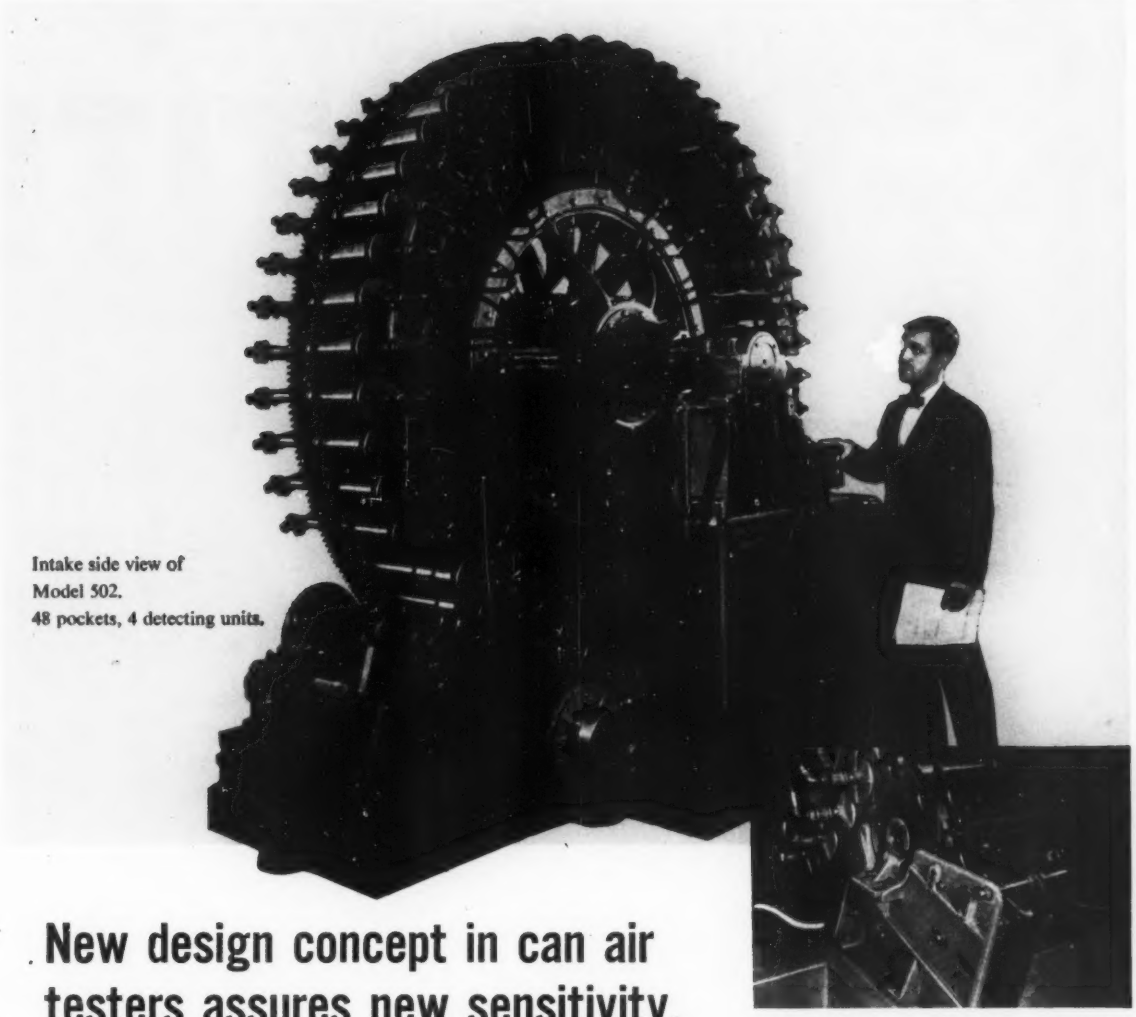
It is into these end areas that the polyurethane pre-mix is introduced and foams into place, entirely filling the end cavities and forming solid blocks that support the sides of the typewriter and its carriage, and prevent shifting in any direction. In addition, the semi-rigid polyurethane foam adheres tightly to the case and to the divider panels for added rigidity.

The foam is a polyether type, a liquid preparation activated by a catalyst composed of a tetrafluorohydrocarbon refrigerant gas dissolved in a solvent. The two parts of the compound are mixed automatically and discharged under pressure directly into the package. Application takes about 6 sec. per carton; the foam rises in less than 2 minutes. About 11.5 oz. of polyurethane are used per case. Its density in the confined spaces is 1.0 to 1.2 lbs. per cubic foot.

During the first 5 min. after foaming, the plastic is solid but then becomes elastic and attains maximum strength and resiliency.

The attractive shipper is easily opened by the customer with a knife. The case is spread open like a book and folded back, using the back panel as a hinge. The foam and corrugated panels separate with the case, thus releasing the typewriter.

Other cost advantages of this package lie mainly in the elimination of mold costs for the plastic components and in reduced space for the storage of packaging components. With the foam-in-place technique, the product and the package together form the mold, the polyurethane mixture flowing around each contour of the machine to make closer contact than would be possible with pre-molded plastics. It is estimated that the switch to the new container has saved 1,000 sq. ft. of storage area. So effective is this method—particularly where a variety of products is being packaged—that it should create wide interest for packaging many delicate items. ●



Intake side view of
Model 502.
48 pockets, 4 detecting units.

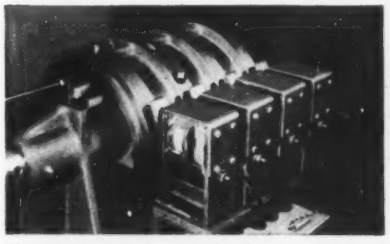
New design concept in can air testers assures new sensitivity, new accuracy in can testing

This entirely new Hamilton design concept of automatic can air testers marks a distinct departure from any previously built by B-L-H. It combines new sensitivity with speed in detecting and rejecting cans with minute side seam leaks, end seam leaks, pinholes, and no bottoms.

Sturdily constructed of finest materials, both Models 502 and 501 Air Testers embody many features resulting from a continuing program of research and development. Among these are a retractable cam locking ring which provides easy access for maintenance of gears and valves, detection monitoring by visual annunciators, and integrated adjustments, coupled with engineering design that expedites part changing for different can sizes.

Bulletin 3606-R gives complete details. Write for your copy today.

Discharge side. Bronze clamp fingers, controlled by Memory Drum, carry acceptable cans to upper discharge chute. Integral adjustment features permit rapid changeover for all can sizes within machine's range.



Memory Drum sequences trip-pins on discharge turret. Four-detecting-unit design employs optimum utilization of Memory Drum, which combines all sequencing of discharge functions into one easy-to-service unit.

BALDWIN · LIMA · HAMILTON

Industrial Equipment Division · Philadelphia 42, Pa.

BALDWIN BLH LIMA-HAMILTON

Still TOPS in M.V.T. PROTECTION

THILCO VAPOTITE

- Keeps moisture-vapor in or out—where wanted . . .
- Preserves food flavors and freshness, longer . . .
- Is odorless, non-staining, clean, pure and non-toxic . . .
- Protects products from tacking, sticking and blocking . . .

TAPE INC. — Packages its gummed roll tape in heavy-duty VAPOTITE bags to protect it from deterioration over extended periods of storage in distributors' warehouses and customer inventory. VAPOTITE'S superior-moisture vapor resistance preserves glue's proper consistency—safeguards against tacking and sticking at temperature extremes. One Tape Inc. customer reports perfect condition Tape even after 6 years of "hidden storage" inventory.

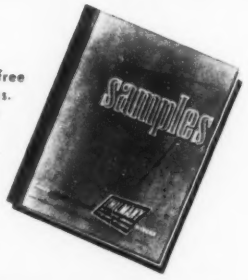
KRAFT FOODS — Gelatin dessert is packaged in a VAPOTITE bag-Orange flavor as the surest way to preserve the product's flavor and freshness and prevent granules from caking. VAPOTITE does not stain or affect, nor does any odor develop from it to permeate the package and damage the naturalness of Kraft's tasty flavors. Because it is sanitary, clean, and non-toxic, VAPOTITE is ideal for packaging food products of many different types.

WILLIAMS CANDY CO. — Of Oklahoma City, uses economical VAPOTITE auto liners to preserve "factory freshness" of its bulk candies in storage. Hard candies and confections can be produced in "off seasons", and stored for later distribution without danger of sticking and blocking, or loss of charm due to moisture-vapor penetration. The Williams Co. tested many packaging mediums but found none as effective in M.V.T. protection as VAPOTITE.

WHAT IS THILCO VAPOTITE?

VAPOTITE, as the name implies, is a wax laminated sheet with an exceptionally high M.V.T. rating. It combines two outer plies of closely formed quality kraft, glassine or grease-proof papers, each double-coated and laminated with special blends of micro-crystalline waxes. It has packaging strength and pliability which readily permit its conversion into spiral containers, case liners or small unit size bags without damage to wax film M.V.T. resistance. VAPOTITE is *economical, low in cost,* and can be furnished "tailor-made" to specific requirements in color or with eye-appealing print decorating, as desired.

Write —today for free "Tell-all" kit and samples. Tell us the nature of your M.V.T. problem and let us help you with specific recommendations.



THILCO

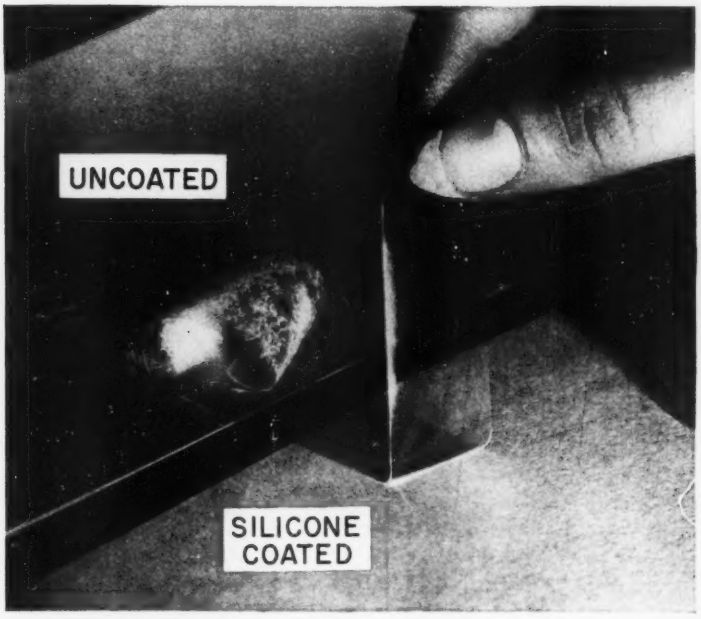
One Thilco Call — Does it all, for . . . . . *Functional Papers* FOR PROTECTION THAT COUNTS!

NEW YORK CHICAGO DETROIT BOSTON KANSAS CITY CLEVELAND CINCINNATI CHARLOTTE

THILMANY PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN

SILICONE NEWS from Dow Corning

No Sticking Here!



New Silicone Coatings for Paper End Sticking; Save Time, Money

Sticky products like asphalt, dates, and uncured rubber have always been troublesome to pack, unpack or process. But that's all in the past for people who specify new Syl-off® silicone coatings for paper.

Even the stickiest materials are easily and cleanly removed from shipping containers made with Syl-off coated paper or paperboard. And there's nothing to compare with the ease of removing Syl-off coated separators from pressure-sensitive backed items — labels, decals, wallpaper . . . backing papers peel completely free without tearing. Syl-off coatings won't transfer or migrate, either . . . which means you can use coated papers as package wraps, liners and interleaving for food products.

WHO BENEFITS? You do! If you buy and use sticky materials, Syl-off means faster in-plant handling and processing. You get all the material you pay for and product losses are minimized. If you ship sticky products, Syl-off helps you create the kind of happy, satisfied customers who make the difference between profit and loss. You can actually save money, too, because Syl-off brand coatings weigh less than other release coatings which means lower shipping costs.

GETTING PERSONAL. Are sticky products giving you or your customers trouble? Can Syl-off help? Syl-off coated papers or containers can be engineered to your special needs by experienced mills and converters. Write now for list of Approved Sources. Address Dept. 8018.

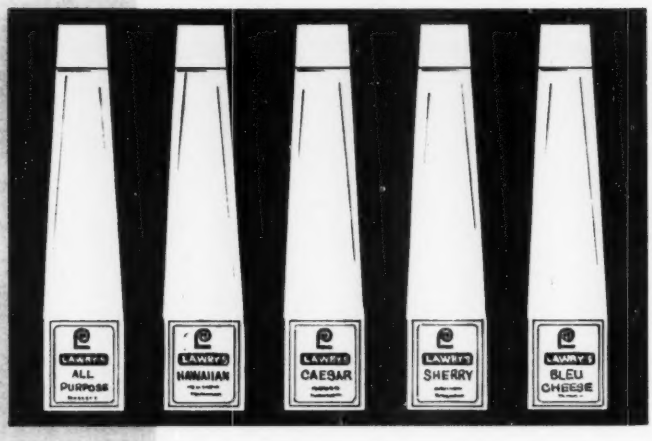
For complete technical information about any silicone product, contact the Dow Corning office nearest you.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D.C.

Danish Modern for crisp greens



Lawry's new "dress" for its tasty salad dressings is easy to spot on the supermarket shelf, goes proudly right to the table.

All five members of the family stand together in just 8½ inches of shelf space.

*The sleek white cap is by WS, of course.. ..... as are Lawry's sifter tops for spices.

When you want good design turned into practical reality, call Wheeling Stamping.

WHEELING STAMPING

Plastic caps . . . pouring rings . . . sifter tops . . . liquid dispensers . . . collapsible metal tubes.

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LOS ANGELES, CALIF. Pleasant 2-0791

Automation

[*Continued from page 116*]

grasped by the upper die. For the third and last time the plate moves forward and then finally ejects the finished container downward into its original position between the conveyor flight bars.

The finished container is then deposited on a packing table for manual date stamping and for final packing into shipping cases.

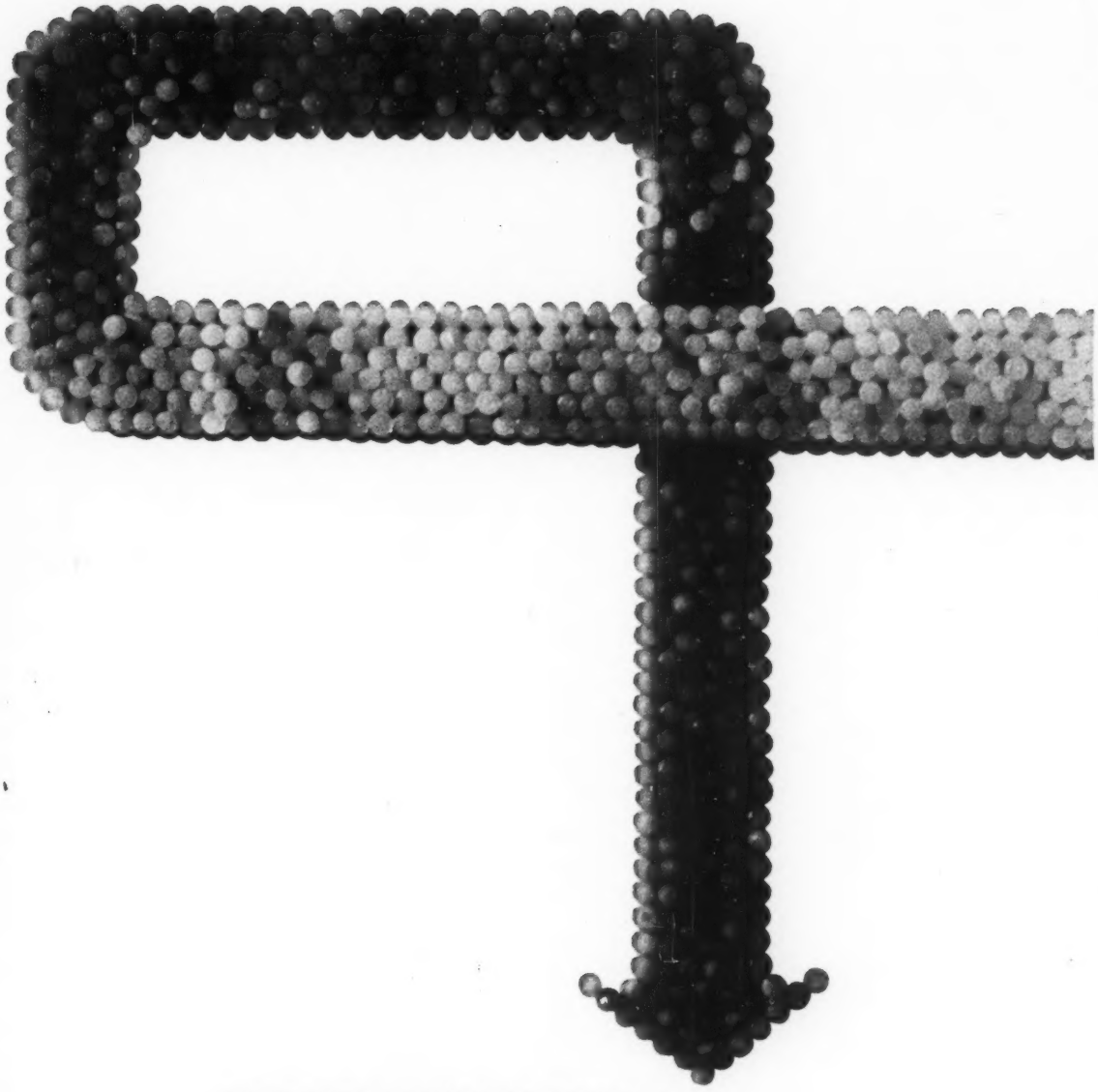
B-K uses only one size for container—a rectangular shape, 2 by 7 in.—so no machine change-over is now required. Change-over for other sizes is accomplished by changing hopper, upper and lower dies and repositioning conveyor chains. Change-over time would be about 30 minutes. The machine can handle circular or rectangular shapes up to 9 in. wide and 10 in. long.

This machine was not specifically designed for granular products and reportedly works equally well for other types. However, the simplicity of the relatively few moving parts makes the machine highly suitable for hard-to-handle granulars. The packager has modified the standard machine only slightly. In addition to the vibrator, B-K has installed a small fan which blows continually across the die surfaces to free them of vermiculite.

The package supplier switched from the use of vacuum to air pressure for the plate's piston, although the rubber suction heads still use vacuum. It was found that air pressure was preferable for the plate because it allows less vermiculite build-up. Otherwise, in four months of constant operation with the abrasive vermiculite, only a couple of small bushings have needed replacement.

However, the vermiculite does require container pre-labeling in another section of the packaging department because the dusty atmosphere near the packaging machine prevents proper adherence of the label to the package.

The simplicity and flexibility of B-K's operation suggest possible use of the machine for other difficult products requiring trouble-free machinability and a sift-resistant moisture-tight container. And the speed of the new machine represents cost-cutting potential for all present and would-be foil users. ●



THAT EXTRA TOUCH OF GRACE: Delivery

Because contamination-free raw material is so important to the creation of successful packages, Grace assures you of the consistent purity of the material you order—in 50-pound bags or 50-ton hopper cars. Strategically located warehouses insure delivery of the Grace plastics you need when you need them. It is because of this continuing attention to detail that Grace delivery has become one of the major services offered by the Grace Service Plan. Call your Grace representative: ask him how raw material delivery can mean that extra touch of Grace to you.

W. R. GRACE & CO. POLYMER CHEMICALS DIVISION, CLIFTON, N. J.
HIGH DENSITY POLYETHYLENE, LOW AND MEDIUM DENSITY POLYETHYLENES, POLYSTYRENES

GRACE
PLASTICS

CLASSIFIED ADVERTISEMENTS

EMPLOYMENT
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Machinery and Equipment For Sale

DISCOUNTS ON USED Packaging Machinery. Biner-Ellison Labelmatics, Filabelmatics, Feedomatic-Air Cleaners—Cappers, Single and Multi-head—Liquid and Viscous Fillers—Labelers, spot, front and back, neck band—Case Gluers, Packers, Compression Units—adapted and guaranteed—trades—terms arranged. Package Machinery Exchange, Inc., 24—15 45 Street, Long Island City 3, N.Y. Yellowstone 2-1366.

1952 BURT LABELER IN EXCELLENT CONDITION used to label Aerosols. Hysan Products, 919 W. 38th St., Chicago.

FOR SALE—2 Simplex Bag machines, model #4-7, serial #1505 and model #4C, serial #2299. Both in good condition. $350.00. Write Coopers, Inc., Kenosha, Wis., Attn: E. N. Arents.

BOTTLE CAPPER FOR SALE: Consolidated Packaging Machinery Corp., Model #B3F. This 4-head capper last used on ½ oz. bottles at 150 per minute. Good Condition and adaptable other size bottles. Reply to Box 611. **WRAPPING MACHINE WITH STACKER FOR SALE:** Hayssen Mfg. Company Model #4-8; last used on ¾ oz. lead tubes in cartons, 12 cartons per bundle, nine bundles per minute. Reply to Box 612, Modern Packaging.

LABELER FOR SALE: New Jersey Machine Company. Model #160 RC 36T; Automatically feeds, glues and applies rectangular labels at 30 to 120/minute. Change parts for five label sizes. Reply to Box 613. **THREE JONES CARTONING MACHINES FOR SALE:** Last used for cartoning lead tubes at 100 per minute; Tubes sizes ¾ oz., 1.7 oz., and 3 and 5 oz. Reply to Box 614, Modern Packaging.

Materials Wanted

WANTED: Acetate, Butyrate and Styrene Scrap. Any Quantity: Sheet Trim, Purgings, Reground. Claude P. Bamberger, Inc., Ridgefield Park, New Jersey. HUbbard 9-5330.

Help Wanted

PACKAGING PERSONNEL
Positions filled and secured. A confidential Nationwide Service for employers seeking personnel and individuals seeking new positions. Inquiries invited. Reply to Graphic Arts Employment Service, Inc. Est. 1952. Helen M. Winters, Manager: Dept. PAC-6, 307 East 4th Street, Cincinnati 2, Ohio. Phone CHerry 1-2201.

SAMPLE MAKER—Major West Coast Folding Carton plant has opening for experienced sample maker in California—Submit detailed resume and photo—Replies confidential. Send to Box 600, Modern Packaging.

WANTED: YOUNG MAN FOR PLASTICS SALES—In packaging field. New York office. Good opportunity. College graduate preferred. Salary, bonus, expenses paid. Send resume experience and education. Replies confidential. Write Box 601, Modern Packaging.

EXPERIENCED SALESMEN wanted by established Northern California converter of flexible packaging materials. Excellent opportunity. Commission, plus draw, and all expenses paid. Two plants to give prompt service. All replies held in strictest confidence. Send complete resume of education, experience and territories covered to Box 607, Modern Packaging.

ARTIST—At least two years experience in Design and Reproduction of Labels. Located in South. Wonderful opportunity. Mail complete resume and samples to Box 608, Modern Packaging.

PACKAGING MACHINERY TERRITORY open for aggresive man experienced in industrial sales of automatic equipment. Represent expanding, long-established manufacturer of packaging, filling, weighing and labeling machinery with direct sales to food, beverage and related industries. For a man with proven ability this position offers an excellent earnings opportunity in an exclusive territory. Reply to Box 609, Modern Packaging.

REPRESENTATIVES REQUIRED by important German Aluminium Foil Manufacturers for the USA-market. Must have good connections especially with firms in the food industry. Apply in writing to Box 602, Modern Packaging.

SALESMAN: PLASTIC PACKAGING
Potential Management Ability. Wonderfull Opportunity with AAA-1 Firm. Company paid benefits. Willing to relocate. Send complete resume to Box 603, Modern Packaging.

MANUFACTURER'S REPRESENTATIVES—Wanted in packaging machinery field to handle pressure-sensitive label dispensers as a complementary line. Submit detailed information on personal history, lines presently carried, and territories and markets covered. Reply Box 604, Modern Packaging.

DESIGN ENGINEER— Packaging Machines: Leading packaging machine manufacturer has challenging opening in design and sales representative areas. Prefer M.E. degree and 5-10 years machine design experience. Ability to work with dynamic, fast moving organization. Excellent opportunities for proven abilities. Southeast location. Salary open depending upon experience. Attractive fringe benefits. Submit confidential reply to Box 610, Modern Packaging.

Situations Wanted

MANUFACTURERS REPRESENTATIVE — covering the State of Ohio, Pittsburgh, Buffalo, and Detroit, contacting wholesale paper merchants, desires additional lines of packaging materials. Box No. 605, Modern Packaging.

DEVELOPMENT DEPARTMENT in Plastics or Package Plant. Built special machines and worked all plastic molding, forming and converting machines. 20 years of business, experimental, and Quality control experience. Over 40 patents and Pat. app. on all types packages including poly film & laminates. Attended college, ran business. Will relocate. Reply to Box 606, Modern Packaging.

Miscellaneous

LARGE MODERN PACKAGING capacity for the European Market in West Germany. Allpack weighs, fills, closes and cartons solid and liquid foods, cosmetics, drugs and other chemical goods on commission. For information: Allpack F. Keller KG, Waiblingen/Rems Postfach 300—W. Germany.

QUICK SAMPLE MOLD SERVICE WANTED —Major manufacturing concern needs quick sample mold service for closures and custom molded containers. Require part drawings and samples from sketches and models in maximum of five days. No connection with molder permitted. Ideal opportunity for mold maker with test molding equipment available. Both injection and compression. Greater New York area location a must. Reply to Box 615, Modern Packaging.

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ALL CLASSIFIED ADVERTISEMENTS PAYABLE IN ADVANCE OF PUBLICATION

Closing date: 27th of second preceding month, e.g., June 27th for August issue.

Per inch (or fraction) ..... $30.00. Each 3 inches or fraction (boxed) $15.00 extra.

Situation Wanted ads ..... 1/3 of above rates.

For purpose of establishing rate, figure approximately 50-55 words per inch.

Address all communications to Classified Advertising Department, Modern Packaging, 770 Lexington Ave., N. Y. 21, N. Y.

Modern Packaging reserves the right to accept, reject or censor classified copy.

Imprints, symbols and codes—the check points of high-speed packaging. They're frequently the hardest working part of the total package, especially to sales and distribution personnel.

Printing round, flat, and flexible — on film, foil, board, metal, paper, glass — these coding operations require special care, engineered equipment.

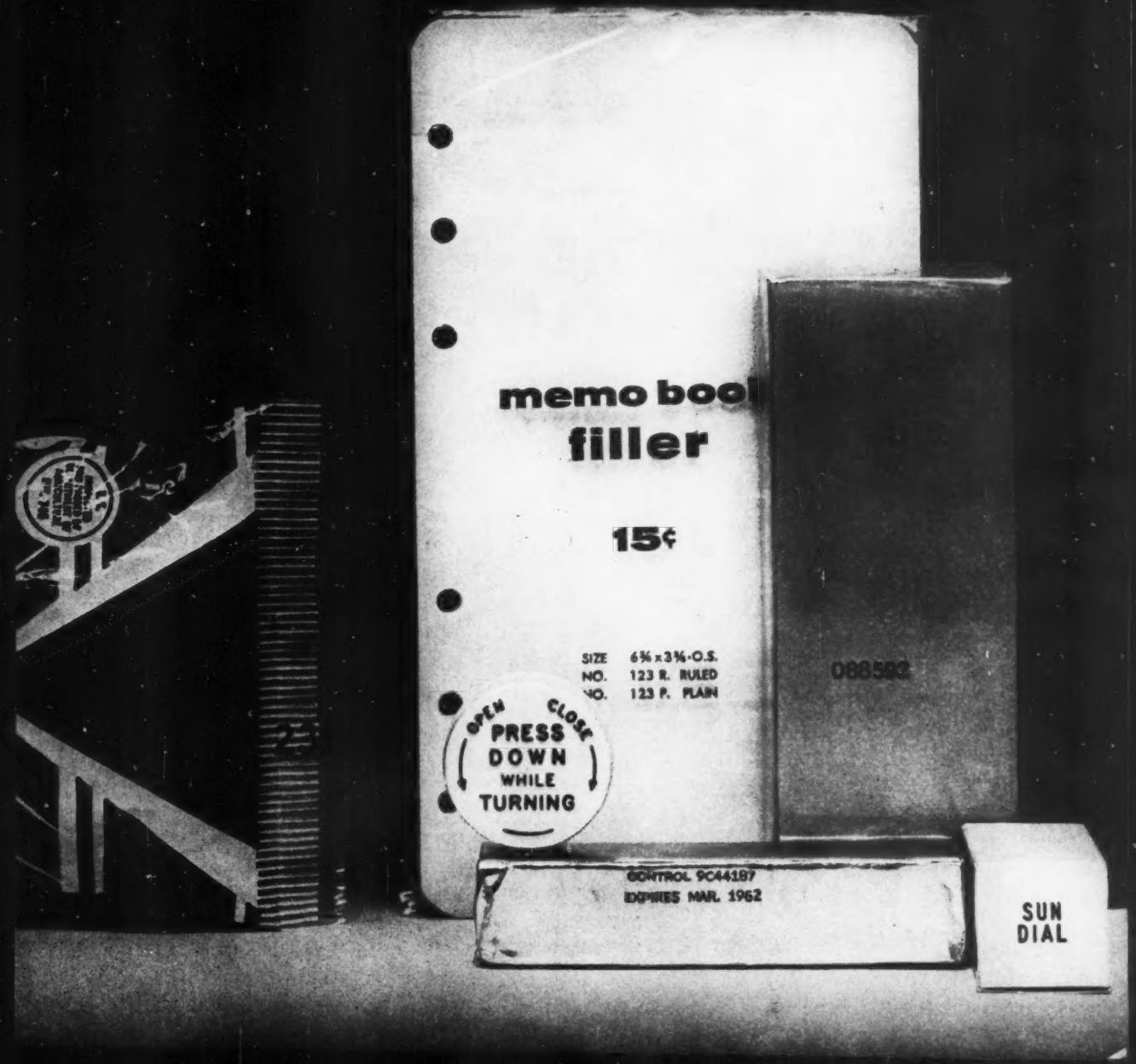
If you are concerned with imprints, or with equipment to do the job — no matter how small or large — a letter or a call will bring an illustrated brochure to your desk. A specific question will bring a specific answer.

Bell-Mark

BELL-MARK CORPORATION
18 ROFES PLACE NEWARK 7, NEW JERSEY

Manufacturers of coding and printing equipment, automatic marking machinery.

IN CANADA STERLING MARKING PRODUCTS LTD. LONDON ONTARIO



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MODERN PACKAGING

THE COMPLETE AUTHORITY OF PACKAGING

Published by Modern Packaging Corp., 770 Lexington Avenue, New York 21, N.Y.

Carried by Boxmakers, Inc., for Stanley Home Products, Inc.—both of Westfield, Mass.

high fashion packaging!

No. 90 Ultragloss boxboard by Ridgelo, enhanced by a gold leaf design created by Margery Markley and produced by Boxmakers, Inc. You doubtless will agree that this is a charming, sales-getting line of folding cartons. Like samples? Write:

Ridgelo CLAY COATED PRODUCTS

LOWE PAPER COMPANY
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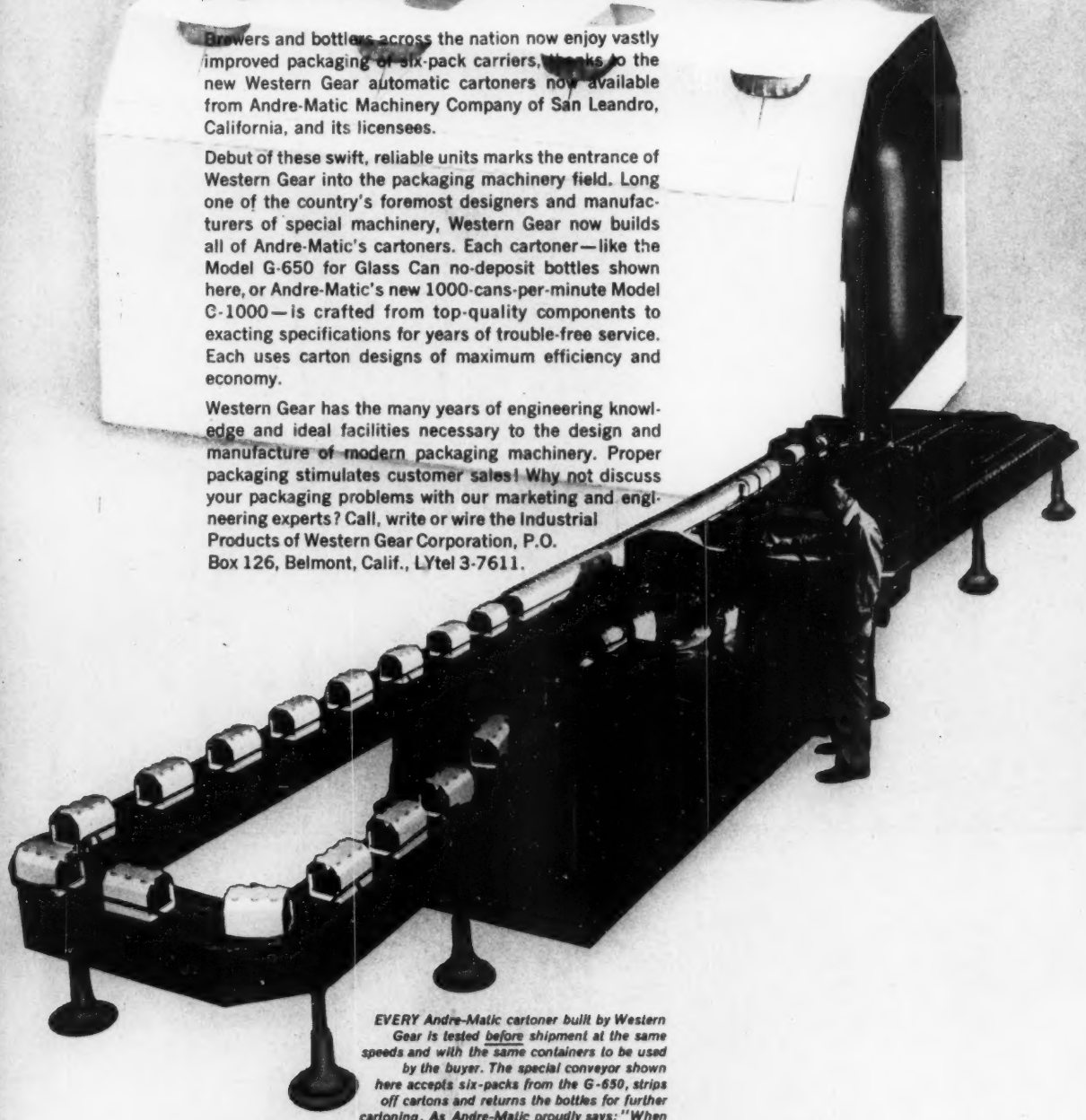
HOW WESTERN GEAR SERVES THE PACKAGING INDUSTRY

Now: BETTER BEVERAGE PACKAGING By Western Gear for Andre-Matic

Brewers and bottlers across the nation now enjoy vastly improved packaging of six-pack carriers, thanks to the new Western Gear automatic cartoners now available from Andre-Matic Machinery Company of San Leandro, California, and its licensees.

Debut of these swift, reliable units marks the entrance of Western Gear into the packaging machinery field. Long one of the country's foremost designers and manufacturers of special machinery, Western Gear now builds all of Andre-Matic's cartoners. Each cartoner—like the Model G-650 for Glass Can no-deposit bottles shown here, or Andre-Matic's new 1000-cans-per-minute Model C-1000—is crafted from top-quality components to exacting specifications for years of trouble-free service. Each uses carton designs of maximum efficiency and economy.

Western Gear has the many years of engineering knowledge and ideal facilities necessary to the design and manufacture of modern packaging machinery. Proper packaging stimulates customer sales! Why not discuss your packaging problems with our marketing and engineering experts? Call, write or wire the Industrial Products of Western Gear Corporation, P.O. Box 126, Belmont, Calif., LYtel 3-7611.



EVERY Andre-Matic cartoner built by Western Gear is tested before shipment at the same speeds and with the same containers to be used by the buyer. The special conveyor shown here accepts six-packs from the G-650, strips off cartons and returns the bottles for further cartoning. As Andre-Matic proudly says: "When one of our cartoners arrives, all the customer has to do is install it and push the button."

WG INDUSTRIAL PRODUCTS DIVISION

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If your product can be...

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...aerosol packaging may increase your sales

Looking for a boost in your sales curve? Aerosol packaging may be the answer—as it has been for many products in many industries. The reason makes good sales sense. People *like* the remarkable convenience of aerosol products. And, more and more, they're *buying* aerosol-packaged products in preference to others.

Want help? As the leading supplier of fluorocarbon propellents, Du Pont has helped others . . . will gladly help you determine if *your* product is adaptable. We'll also provide technical and marketing information, and the names of qualified custom loaders.

Free booklet, "Package for Profit," tells the story. Write to: Du Pont Co., "Freon" Products Div., N-2420PB, Wilmington 98, Delaware.

New aerosol ironing aid uses "Freon" propellent. Called "Glisade," this starchless product was developed and is being marketed by Aerosol Corporation of America.

Best-selling aerosols are powered with **FREON®** propellents

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Continental has the
right soft drink package for you!

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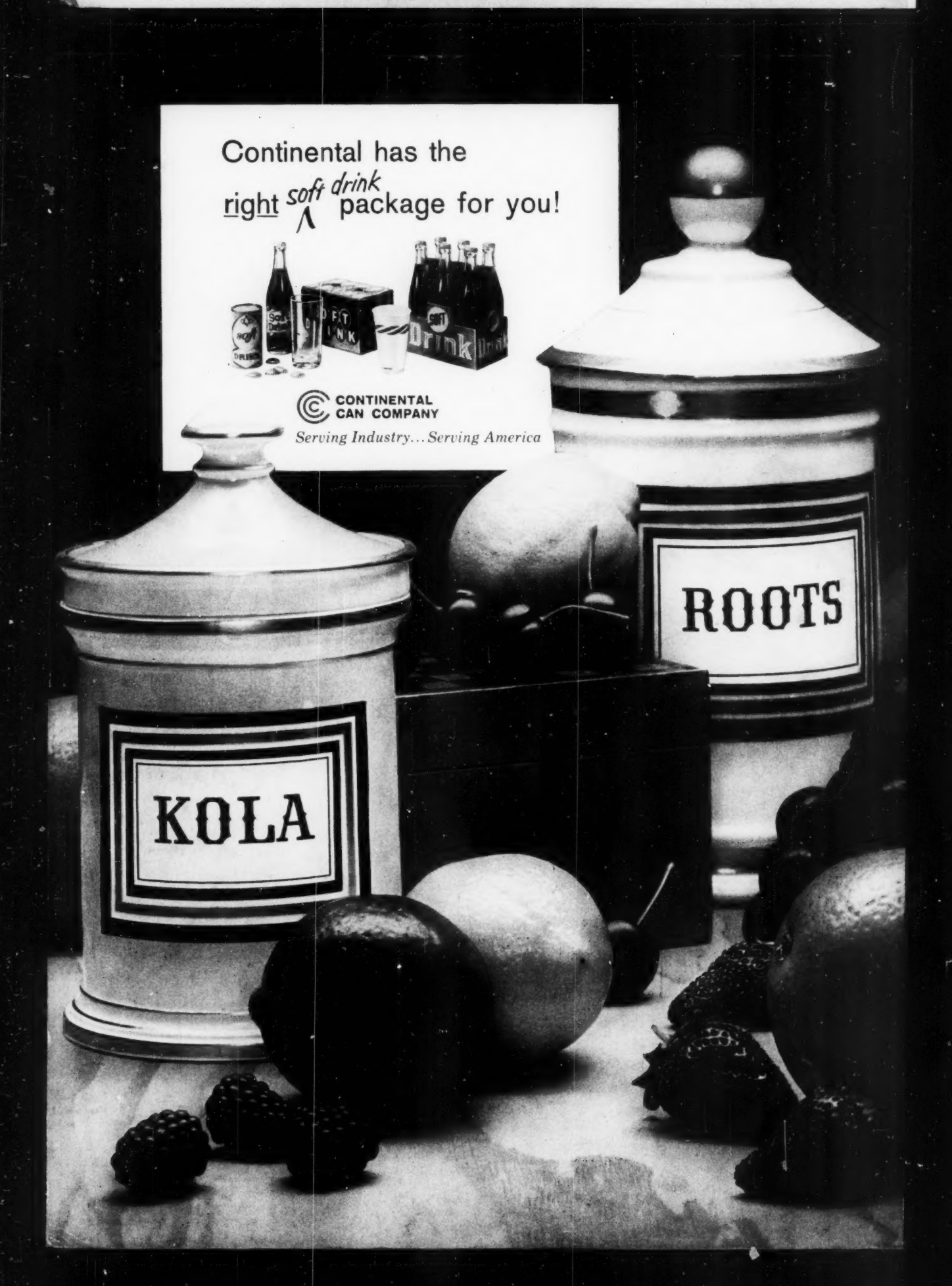
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